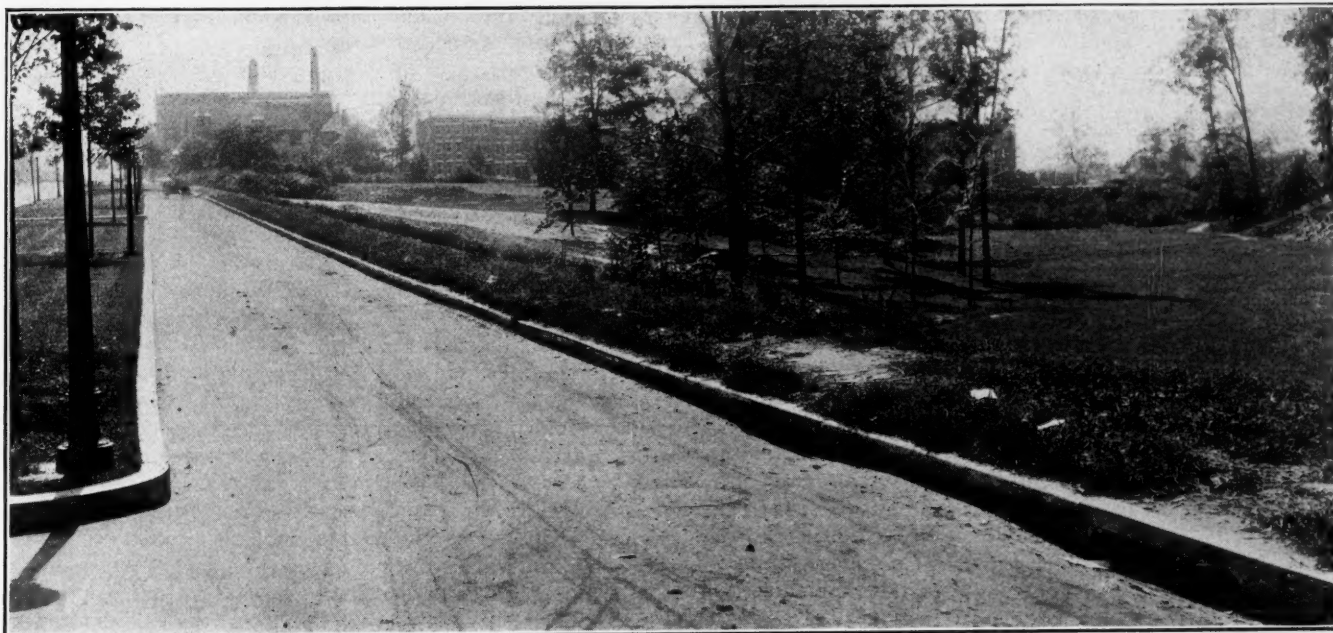


Municipal Journal

Volume XXXV.

NEW YORK, OCTOBER 30, 1913.

No. 18



CHARLES STREET AVE., BALTIMORE, MD. WEST SIDE DRIVEWAY LOOKING SOUTH.

Showing wavy condition and depression along curb line adjoining fill and cracked inlets, along west slope. Photo taken Sept. 24th, 1913, six years after the laying of the pavement and making of the fill in 1907. The pavement was entirely relaid over the fill on account of settlement and has again settled to a considerable extent as shown by the photograph.

EMBANKMENT IN ROAD CONSTRUCTION*

Should Always be Rolled in Thin Layers as in Reservoir Construction.—Otherwise Settlement Likely to Occur, Even Months Afterward, to the Detriment of Any Pavement Laid.—Illustrations of Both Practices.

By GEORGE C. WARREN.

The Municipal Journal of August 28, 1913, contains an item as follows, the italics being inserted by the writer:

Large Paving Work Poorly Done.

Philadelphia, Pa.—Because the material used to make the fill to bring the Southern boulevard up to grade *was not allowed to settle before the surface improvements were added*, it will be necessary to do over again much of the work on which the city has already spent \$761,000. The Highway Bureau Chief says the added expense of re-filling on the boulevard, *which has sunk two feet*; the relaying of concrete and resetting of conduits, manholes and light posts, will prevent the job being completed with the \$210,000 now available for the work. *The contractor shifts the blame to the ex-Mayor, who, while in office, ordered the improvements put on the surface before the fill had settled.* The Bureau Chief says that the principal filling material used was household ashes and in consequence there was much settling. Concrete curbs and sidewalks, brick gutters and macadam roadways, electric light poles, inlets, etc., were placed on top of this "fill" immediately after it had been thrown in place and before it had had a chance to settle. The result is that these costly curbs, sidewalks, gutters, etc., are ruined and it will be necessary to throw away a great portion of this expensive surface work. Replying to the Bureau Chief's criticism, the contractor said that the filling of the boulevard was done with clean ashes, earth and gravel, the very best fill to be had, strictly in accordance with the specifications. The settlement of the paving and curbing and the finished street on

top of this fill was due to the fact that *several hundred thousand yards of filling were placed in one year, without giving it the usual time for settling.* The Mayor ordered the paving and curbing to be done on this green fill, which was about 20 feet deep, in the same year. Under ordinary circumstances the fill would have been allowed to lie from at least six months to a year for settlement before the paving was done. It was not so in this case, as the government officials at the navy yard were threatening to stop improvements unless the city gave them a finished street leading from the navy yard gate up to the city, and the mayor ordered the work done at once to satisfy the government officials, and said he was willing that the city be responsible for settlement under the circumstances, and added that the city would not be a party to stopping improvements at the navy yard.

This affords text for a flood of serious thought on the earth settlement problem. The Philadelphia case differs from thousands of cases which occur nearly every day in nearly all cities only in its magnitude, involving construction costing three quarters of a million dollars; a fill twenty feet deep; several hundred thousand yards of embankment, and the many miles of curb and roadway surface.

It is proper to say that the present Highway Bureau chief was not in any way connected with the Philadelphia Public Works Department at the time this work was done. It should be specifically noted that, according to the Municipal Journal report quoted above, the engineer

*Paper read before the 20th Annual Convention of the American Society of Municipal Improvements.

says the fill was made with improper material—household ashes, while the contractor says sound material was used “the very best to be had,” “strictly in accordance with the specifications” and undertakes to shift the responsibility on the poor ex-mayor who ordered the work completed promptly to avoid “stopping improvements at the Navy Yard.”

Apparently it never occurred to any one during the period of drafting specifications and construction of the work to see that the work be done in such a way that there could be no subsequent settlement even at the expense of a little more money in original construction. Is not such neglect almost criminal?

More than twenty years ago, in connection with a paving contract in Utica, N. Y., the writer had charge of the making of an embankment about 500 feet long, 50 feet wide and up to 6 feet deep. This was in a roadway extending across what is known as “The Gulf”—a ravine about 75 feet deep extending through the city, being the bed of Ballois creek, once an important stream but now a nearly extinct branch of the Mohawk river, at the junction with which old Fort Schuyler was located in the French and Indian War period. As the city grew towards “The Gulf,” it had become filled with ashes, tin cans and general refuse, in fact has been the dumping ground of the city for many years, the fills being made opposite the street ends. Although made of “improper material” the filling was so gradual that the embankment packed under traffic as it was made and, as above stated, at the time of paving was up to within almost six feet of proposed sub-grade of the pavement. Could this fill be made quickly, so that pavement could be laid immediately and without any settlement of the pavement? It was so made by the simple process of hauling the embankment material to the fill; spreading it in layers about six inches deep and thoroughly rolling until solid, dampening the earth slightly with a watering cart at times when it was too dry to pack.

In connection with the laying of bitulithic pavements on French Broad avenue, in 1904, and Montford avenue in 1906 in the city of Asheville, N. C., the grade alignments and widths of the streets were materially changed necessitating heavy cuts and fills.

In some cases the entire width of the roadway was raised from six feet to nineteen feet. In others, where the roads passed through ravines, the straightening and widening necessitated sidehill fills about thirty feet wide and from twenty to forty-five feet deep. At some extra expense a 12-ton steam road roller was lowered to the bottom of the ravine, a road built for descent of wagons to the bottom and then the embankment proceeded as all embankments should, in layers thoroughly rolled from the bottom to the top. Here again there was no subsequent settlement and the fill was not “allowed to lie from at least six months to a year for settlement before the paving was done” as the Philadelphia report says would have been allowed “under ordinary circumstances.” Such a fill made according to the Philadelphia practice might continue to settle, slip and slide for ten years—no one could tell how long.

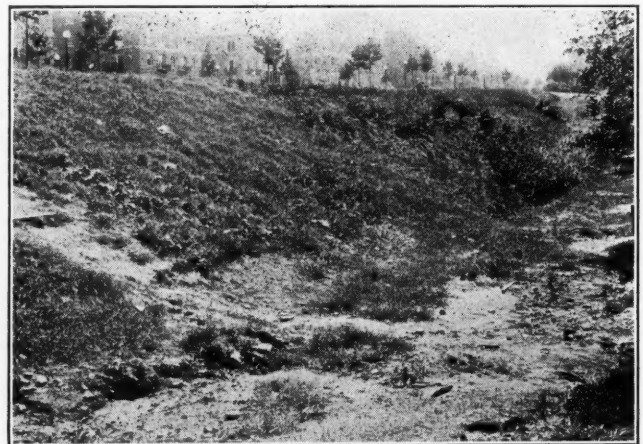
The writer is indebted to J. T. Bostis, street superintendent of the city of Asheville, for the following clean description of the conditions of the French Broad avenue and Montford avenue fills.

“French Broad Avenue Fill.—The fill was made by Warren Brothers Company in 1904. The old street was nearly 24 feet roadbed and widened to 56 ft. We raised the old fill 6 ft. high. On the west side the fill was 35 ft. high when completed. There was a large storm sewer through this fill. We began at the slope of the 35-ft. fill on the west side, filling from the 56-ft. slope one foot

at a time and rolling thoroughly every 12 inches until finished. On the east side the fill was 20 ft. high and was filled the same way. The filling, paving and setting of curb were all done within three months and there shows no sign of any settling whatever.

“Montford Avenue Fill.—The Montford avenue fill was made by the Atlantic Bitulithic Company in 1906, and was an old street car track and a fill 14 ft. wide on top and 26 ft. high. We widened said street to 50 ft., making a fill 45 ft. high when finished, filling one foot at a time at the foot of the slope and rolling up until street was completed, making a fill 19 ft. higher than the original street car fill. This shows no sign of sinking at all since original street was made and paved.”

In the year 1907 in connection with the laying of pavement on Charles Street Avenue Boulevard, Baltimore, Md., a side hill embankment was necessary quite similar to that in Asheville above described. In this case Warren Brothers Company's connection with the work was as a sub-contractor laying the bitulithic surface only. The specifications required that embankment be made in six-inch layers thoroughly rolled. The general contractor insisted that the fill must be made from the top down, he claiming that wagons and roller could not be practically lowered to the bottom of the ravine. The engineer sustained the general contractor who then proceeded to build a construction track at the top and make the fill with dump cars from an adjoining hill—very cheap embankment but very expensive result. Fortunately in this case, before the pavement surface was laid but after the foundation and curb were complete, “the rains descended and the floods came and beat upon” that fill and it slid several feet toward the bottom of the ravine. The general contractor fumed; blamed everyone but himself and even charged the result to the sub-contractor for the pavement surface on the remarkable theory that, if the sub-contractor had more promptly surfaced the foundation

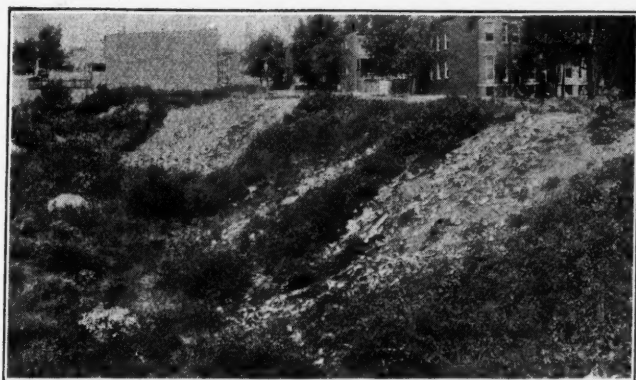


CHARLES STREET AVENUE, BALTIMORE.
Fill about 20 feet deep. Same location as other photograph.

the water would not have entered the fill and it would not have settled. One side of the street was then barricaded for more than a year waiting for the embankment to settle, to the great annoyance and inconvenience of all concerned, including the public and owners of abutting property.

A year later a condition arose in Baltimore in connection with the paving of Elm avenue, which was quite similar to Charles Street Avenue Boulevard, except that on Elm avenue the conditions were such as to make more difficult the lowering of the roller and building of wagon road to the bottom of the ravine. In this case the company, with which the writer is connected, had the general

contract and therefore was not hampered in proper prosecution of the work. The roller was lowered and the wagon road to the bottom of the ravine was built. The pavement was immediately constructed and there has been no settlement since.



SLOPE ON FILL ALONG ELM AVE., BALTIMORE, MD.
Showing the fill and slope along this Avenue. This fill was about 25 ft. deep and 60 ft. in width. Photograph taken Sept. 24th, 1913. Pavement laid 1908. No settlement of fill which was thoroughly rolled in layers.

In a paper read before this society seven years ago on the subject "Back Filling Trenches," the writer said:

"One engineering journal ((Municipal Journal) recently suggested that tamping the earth in back filling trenches be done with pneumatic or steam rammer. This offers food for thought to the inventor. For the present, tamping must be done by hand."

"The 'food for thought' has borne successful fruit in the development of the Stanley mechanical tamper, a most useful, simple, inexpensive apparatus which is in far too little use. The city of Wilmington has one of these Stanley mechanical tampers, and it is hoped its practical use may be shown to the A. S. M. I. delegates at their convention.

"Eternal vigilance is the price of success," so in this matter of earth settlement whether it be in back filling trenches or making embankments, let the engineer make specifications requiring first class construction; see the contractors bid prices high enough to enable compliance with the specifications and then insist on their being carried out in good faith and we will have no more "waiting at least six months or a year for settlement" before completing the work, nor the other alternative of loss of many thousands of dollars through subsequent settlement of the completed works.

In conclusion, it is the writer's conviction that, whatever the trouble and expense may be, in all cases where fills are made in roads and pavements, whether the fills consist of back filling trenches or embankment, economy and efficiency demand that the work be done thoroughly to the end that there will be no subsequent settlement.

If engineers will uniformly not only draft specifications so as to provide for such care but also see that contractors fulfill the specifications, they will be performing one of the most useful reforms in connection with road construction. It ought not to be necessary to inform contractors in advance that specifications must be complied with, but in this important matter careless construction, regardless of specifications, has come to be so general in practice that it is well to specially and forcibly call the attention of prospective bidders to the condition of the specifications and inform them that they will be rigidly enforced. Let a few contractors pay the penalty of bidding on a basis that specifications will not be enforced, especially in this important respect, and the present carelessness will soon become history and proper construction the order of the day.

SPRINGFIELD SEWAGE DISPOSAL PLANT

Intermittent Filters.—Mechanical Distributors, Only
Ones in Use in This Country.—Sludge Disposal.

By ALEXANDER POTTER

(Continued from page 558.)

INTERMITTENT FILTERS.

To reduce the loss of head to a minimum, power-driven mechanical distributors are used to distribute the sewage on the filters. These distributors were manufactured by the Ham Baker Company of London, England. They are designed to distribute the sewage upon the beds with a loss of head not to exceed 12 inches when the liquid is applied at the maximum rate of 720 gallons per square yard per day. Plate 4 shows the construction of one of these distributors. Each distributor is supported on three rails, spaced 25 feet on centers. The length of the travel is 200 feet.

The effluent from the settling tanks is conveyed by a 24-inch reinforced concrete pipe to a main distributing trough located at the north end of the filters. The lateral distributing troughs which supply the traveling distributors are fed by 3-foot weirs from the main distributor. The object of these weirs is to insure a uniform distribution of the liquid to the distributors. Plate 4 also shows the construction of the sprinkling filters. The depth of the filtering material ranges from 6 feet 6 inches in the center to 6 feet at the sides. The under-drains were not built as shown on the drawing. Instead of using 6-inch channel tile, the contractor was given permission to construct 6-inch semi-circular channels in the concrete floor and cover them with vitrified tile slabs. The main collectors are semi-circular in shape, 18 inches in diameter, and of variable depth, the distance between them being about 25 feet. The rails on which the distributors travel are supported by concrete girders carried by piers spaced 12 feet 5¼ inches centers. The area covered by each distributor is enclosed by an 8-inch concrete wall. The winter temperature of Springfield is sometimes so low that it may be questionable as to whether the traveling distributors can be successfully operated in extreme weather. Should the traveling distributors go out of commission or any of them break down it is possible to utilize the filters or any unit thereof as a contact bed to be operated by hand, suitable gates being provided for this purpose.

Operation of Distributors.—Extending down the center of the filters between two of the traveling distributors is a 3-foot rectangular conduit in which the normal depth of sewage is 16 inches. A cast-iron siphon, 24 inches long and 8 inches in width, conveys the liquid from this trough to the distributor. The siphon is provided with a gun-metal air cock and brass air exhaust pump for starting the flow. The siphon discharges into the feed tubes, of which there are two. These feed tubes are made of wrought-iron 3/16-inch thick and have an external diameter of 7¾ inches. The feed tubes are supported at each end and at the center by a cast-iron carriage braced together by rolled steel beams so as to form a rigid structure. In each feed tube just above the center are located 5/8-inch by 4-inch orifices, spaced about 15 inches lengthwise. The even distribution on to the beds is accomplished by a distributing tube, 2½ inches in diameter, located between the feed tubes. This distributing tube is built in sections and can be raised or lowered as required to control the flow of sewage upon the beds. The feed tubes are protected with galvanized sheet-iron covers, provided with hinged access doors. The protection extends to within one inch of the surface of the bed in order to conserve the heat

in the sewage as much as possible, especially during the cold weather. It also acts as a preventive of flies. A space is provided between the two channels supporting the feed tubes, which during the cold weather is to be filled with moss, leaves or other insulating material.

Each pair of distributors is operated by an endless wire cable. All three sets of cables are driven by one 6-H.P. Otto gasoline engine, which gives the distributors a speed of 38 feet per minute. The change in direction of the distributors is accomplished by means of the reversing lever shown on Plate 4.

The distributors have realized every expectation. Less than two horsepower is required to drive all six distributors. The writer believes that the distribution of the liquid over the bed is more uniform than can be obtained by the methods now in use in this country. The more uniformly the liquid is distributed upon a filter, the greater the quantity of sewage that can be applied to the filter to obtain the same degree of purification; or, with a given quantity of sewage, the more uniform the distribution, the greater the purification.

First Used in Springfield.—To the knowledge of the writer this is the first time that power-driven traveling distributors have been used in this country. The range of temperature at Springfield makes this installation an

important one as indicating possible limitations of service in extreme winter weather without covering the filters.

FINAL TREATMENT OF FILTER EFFLUENT.

The existing sewer conveys the filter effluent to the final settling basin located near the mouth of the existing sewer. This final settling basin is 150 feet long and 50 feet wide and has a capacity of 150,000 gallons. A reinforced concrete channel admits the sewage to the basin at the upper end, and at the lower end a similar channel conveys the settled liquid through a short length of the existing sewer to the outlet into Wilson creek. It has not been deemed necessary to sterilize the effluent.

SLUDGE DISPOSAL.

The sludge which is drawn off from the main settling tanks is conveyed by a concrete trough laid to a grade of 5/10 of 1 per cent to the sludge beds. The sludge bed, which takes in an area of 0.35 of an acre, is divided by wooden partitions into twelve units, each unit being 25 feet wide and 50 feet long. Each sludge bed is underdrained with graded gravel, 18 inches deep at the center and 12 inches deep at the sides. Down the center of each unit extends a 6-inch vitrified underdrain laid with open joints. The surface of the gravel is covered with a thin course of mortar sand to prevent the sludge from

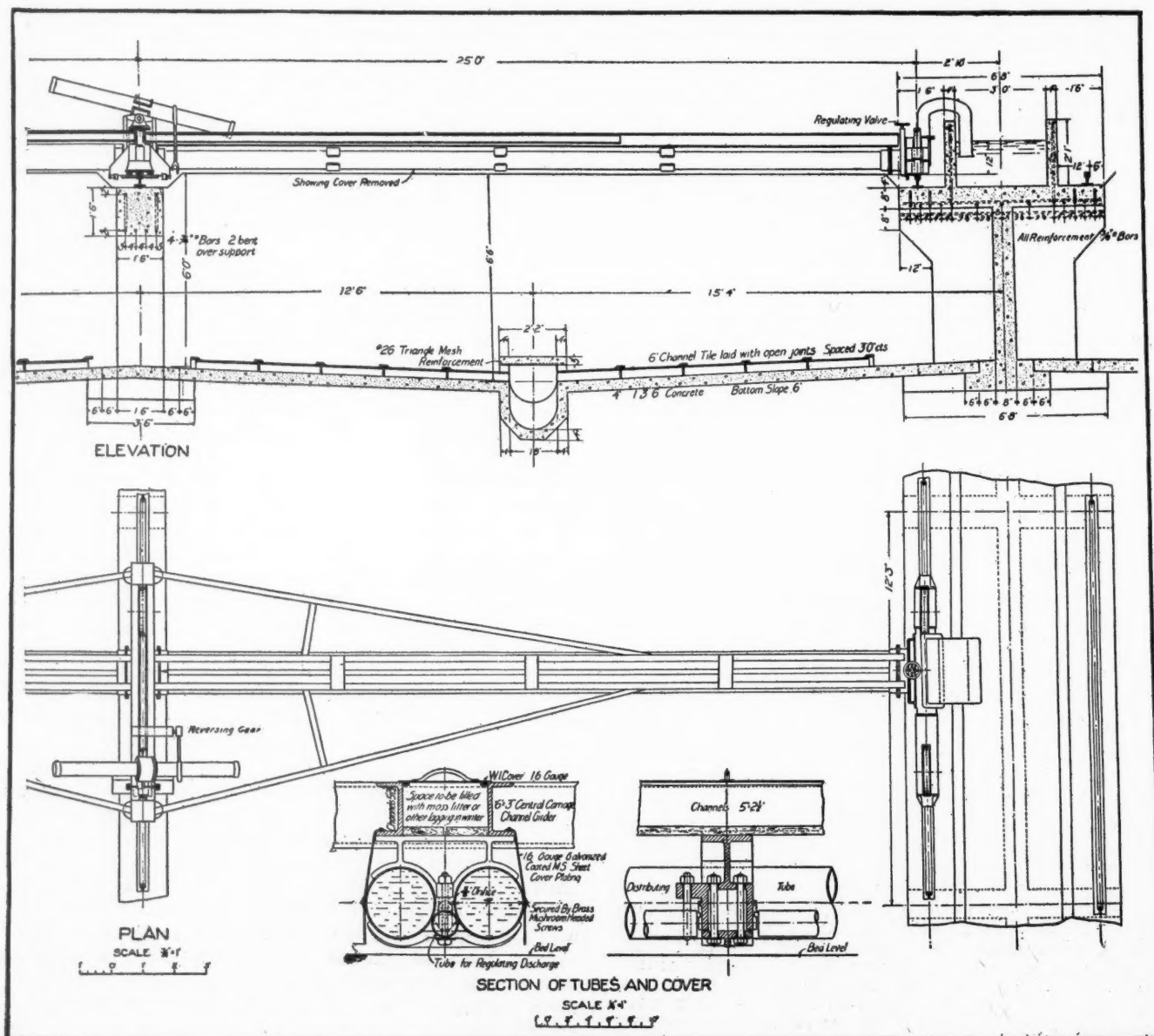


PLATE 4. SECTION OF FILTER UNIT SHOWING TRAVELING DISTRIBUTOR.



FIG. 5. POWER-DRIVEN TRAVELING DISTRIBUTOR IN PLACE.

working its way into the gravel. The bed is given a slope of 1 inch in 10 feet away from the sludge inlet to assist in the distribution of the sludge over the entire bed.

The sewage disposal plant for the northern district is located near Doling Park. It has a capacity of 500,000 gallons in 24 hours, and, with the exception of the distribution of the sewage over the filter, is in all respects similar to the plant just described. Instead of mechanical distribution, nozzles are used to distribute the sewage.

Both plants were efficiently constructed by J. C. & E. T. Likes, contractors, of Des Moines, Iowa, the south plant under very adverse conditions. The south plant was constructed for the sum of \$76,063, and the north plant for the sum of \$14,795, thus keeping well within the appropriation of \$100,000.

The writer's principal assistant, Mr. A. H. Beyer, was in charge of the development of the details. Mr. H. C. Atwater was resident engineer during the entire construction of the plants.

MUNICIPAL PURCHASING AND STOREKEEPING

Why Municipalities Should Centralize This in One Department.—Plan Adopted by Baltimore—Results in Sacramento.

By WILLIAM TALBOT CHILDS, Deputy City Comptroller of Baltimore.

The city of Baltimore is about to take steps toward establishing a general purchasing and storekeeping system. Briefly, the scheme is exactly what every successful private corporation has for many years maintained, that is, the purchasing and distribution of all supplies through two common sources, one a purchasing department and the other a storekeeping department, rather than through as many sources as there are departments (of which there are thirty-five in the corporation of the Mayor and City Council of Baltimore); the two-fold purpose being that the city may purchase all its supplies at the lowest obtainable prices, consistent with quality and grade required, and then properly distribute the same. The innovation has been talked about by so many city administrations, of different political faith, that no one could now say with any degree of certainty exactly who originated the idea and when.

In 1909, the American Audit Company, after a thorough examination of the city's books of accounts, made, among others, the following recommendation:

Under the present general system of administration materials and supplies, aggregating a large amount, are purchased by the various departments. Many articles of the same kind are purchased separately by such departments. Stores of materials and supplies of a like nature are kept in several places, requiring the attention of at least one man in each department where they are stored, making it necessary to prepare several inventories of the same kind or articles. In our opinion, the establishment in the comp-

troller's department of a general purchasing agent would be of advantage in many ways. His duties should include a careful consideration of market values of articles to be purchased and he should inform the Board authorizing purchases as to prices. The various materials and supplies should be purchased in quantities required by all of the departments, and the same care taken as to business arrangements, including wholesale prices for large quantities, subject to the same cash discounts and trade discounts as are allowed to any other purchaser under similar conditions.

It is certainly unbusinesslike, to say the least, for a million dollar corporation such as the City of Baltimore to permit city departments to buy, at retail from day to day, for their individual needs, such articles as a five-cent box of tacks, a bolt, a dozen screws, a ball of cord, a dozen lead pencils, a typewriter ribbon at 75 cents (when by contract the same ribbon can be purchased at less than half that sum), a hammer, a quart of lubricating oil at 15 cents (when it can be bought by the barrel at 32 cents a gallon), an inner tube for an automobile, a day's supply of automobile gasoline, and so on, ad infinitum. This condition has existed ever since the incorporation of the city of Baltimore, and no doubt not a few other large as well as small cities are doing the same thing. Of course, the only economical and practical thing to do is to require that all supplies required by all the city departments, from a lead pencil to an adding machine, be ordered by requisition from the storekeeper, say once a month, and all supplies, without exception, be

purchased by the general purchasing agent or purchasing board, just as is done by railroad and other private corporations.

It must not be understood that Baltimore is behind other cities or so far behind the private corporations, in this respect, for Baltimore has a splendid system with regard to contracts for work and supplies involving an expenditure of \$500 or more, as evidenced from Section 14 of the Baltimore City charter:

Hereafter, in contracting for any public work, or the purchase of any supplies or materials, involving an expenditure of five hundred dollars or more for the city, or by any of the city departments, or municipal officers not embraced in a department, or special commissions or boards, unless otherwise provided for in this article, advertisements, for proposals of the same, shall be first published in Baltimore City, twice or oftener, the first publication to be made not less than ten nor more than twenty days prior to the day set for opening the bids; and the contract for doing said work or furnishing said supplies or materials, shall be awarded by the board provided for in the next section of this article, and in the mode and manner as therein prescribed.

Work and supplies in sums less than \$500, however, may be ordered and contracted for severally by the various city departments, although two or more bids are generally obtained by the department heads when the amounts involved exceed \$100. It is the miscellaneous supplies, however, that the present proposition at Baltimore largely concerns, and it is confidently believed that a considerable saving will be effected by consolidating these miscellaneous supplies and purchasing all supplies through one source, namely, the Board of Awards, and under the mandate of Section 14 of the City Character, above quoted.

Indeed, the purpose is not only to consolidate the miscellaneous purchases, but all purchases, whether or not the amounts involved are less than the City Charter limit of \$500, the principle being the economy of purchasing at wholesale. To illustrate what can be done by consolidating purchases, even when the amounts involved are far in excess of \$500; last year a plan was suggested by the city engineer at Baltimore by which his department was authorized to purchase through the Board of Awards, by one contract, enough cement to supply all the city departments for the year and the saving thereby effected was conservatively estimated at \$4,267.30. Encouraged by this experience, the Board of Awards, the purchasing board at Baltimore, has recently purchased by one contract through one department, the Water Department, a year's supply of coal for all the city departments. The several departments make requisition on the department authorized to purchase the entire quantity, for their cement or coal, as the case may be, as needed, and are charged at the contract price. Of course if the market for any commodity thus purchased in large quantities should decline during the year, the plan would entail a loss upon the city, but the rise and fall in the market on all commodities is one of those risks that must be assumed.

Fortunately, Baltimore has available a desirable storehouse, thus saving a considerable sum of money that would be required to erect a new building for that purpose. There will be completed at Baltimore this fall one of the most modern polytechnic institutes in the country and the old polytechnic building is to be fitted up as a city storehouse. In fact, it is the policy of the present city administration at Baltimore to utilize old school buildings, either for municipal purposes or to rent or sell them, as soon as they are no longer needed for school purposes, instead of letting the buildings remain idle for years and go to rack and ruin, as, unfortunately, often is the case in cities where the custodians of city property exert no initiative to produce revenue from such sources.

At present reports are being prepared of supplies of all kinds used and on hand by all the city departments at Baltimore. These will be classified so as to determine the quantities of various commodities used by all departments of the city during the course of the year, so that the gross quantity may be purchased at one time.

Controller Prendergast, of New York city, estimates that his plan for centralizing the purchase and distribution of all supplies required by New York city and providing for the organization of a board of purchase consisting of the mayor, the controller and the president of the Board of Aldermen will save the city from \$3,500,000 to \$4,000,000 a year, besides unifying purchases and promoting efficiency in buying, inspection and audit. The plan has been developed from one of the most successful purchasing systems in the world, that of the Canadian Pacific Railway, a corporation which annually purchases four times as much as New York City.

In the report of the city purchasing agent of Sacramento, California, for the last six months of 1912, some very interesting comparisons of prices before and after the creation of his department are given. A few picked out at random follow:

		Old Price	New Price	Excessive Per Cent in Old Price
Axle Grease	lb.	\$0.11 $\frac{1}{4}$	\$0.05	125
Blotters (Desk size, 120 lbs. to ream)	doz.	.60	.26	130
Brooms (Common House)	doz.	7.80	4.50	73
Cement	bbl.	3.00	2.40	25
Election Proclamations ..	C	100.00	8.34	1099
Election Ballots	M	16.67	.90	1641
Ink, Carters Blue, Pints. doz.		6.00	4.00	50
Oil, Automobile Cylinder	gal.	.80	.35	128
Paper Clips, "Gem"	M	1.00	.35	157
Pencils, Colored Lead...	gross	14.40	3.50	311
Pens, Esterbrook No. 14..	gross	.75	.56	34
Shovels, Fire	doz.	3.60	.70	414
Steamed Envelopes No. 10, Printed	M	36.00	24.50	47
Toilet Paper, Rolls or Squares	M	1.00	.60	66
Typewriting Machines, Standard Make	each	105.00	81.00	29

The total expense of the Purchasing Department for the six months was \$2,086.75, and it can readily be seen from the foregoing that the department saved through reduced prices alone many thousands of dollars in excess of its cost.

As to the system to be adopted at Baltimore, nothing definite can as yet be said. Each city no doubt must operate a system peculiarly adaptable to its own individual needs. Suffice it to say, however, the aim of the present city administration at Baltimore will be to see that all supplies are purchased at the lowest possible prices and that, as set forth in Henry Bruere's admirable book "The New City Government," the purpose of the new storekeeping department will be "to control the use and custody of all supplies and materials on hand, pending consumption."

Merchants who have found that the price of success has been the giving of close personal attention to details, making every dollar count, are often dumbfounded to know that public officials whom they have helped to elect to office give little, if any, thought to such matters, but this condition is rapidly changing; the problems of taxation are becoming so difficult in all American cities that sooner or later the slogan of all political parties will be "Efficiency in City Government." It is not so difficult to see the high spots in municipal financing, but it does take time and thought and study and honest endeavor properly to manage and economize in the little things that are in every day's routine.

Municipal Journal

Published Weekly at
50 Union Square (Fourth Ave. and 17th St.), New York
By Municipal Journal and Engineer, Inc.
Telephone, 2805 Stuyvesant, New York
Western Office, 1620 Monadnock Block, Chicago

S. W. HUME, President
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F. E. PUFFER, Assistant Editor

Subscription Rates

United States and possessions, Mexico, Cuba.....\$3.00 per year
All other countries..... 4.00 per year
Entered as second-class matter, January 3, 1906, at the Post Office at New York, N. Y., under the Act of Congress of March 3, 1879.

CHANGE OF ADDRESS

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Contributions suitable for this paper either in the form of special articles or of letters discussing municipal matters, are invited and paid for. Subscribers desiring information concerning municipal matters are requested to call upon MUNICIPAL JOURNAL, which has unusual facilities for furnishing the same, and will do so gladly and without cost.

OCTOBER 30, 1913.

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House or Sanitary Sewers.

What name should be given to those sewers which carry the waste water discharged from residences, factories, etc., and what to those which carry the rain water from the streets? The former are called by some "house sewers," by others "sanitary sewers," and by still others simply "sewers," the last giving to the other class of sewers the name "drains," while others call them "storm water sewers" or "storm sewers." A committee of the American Society of Municipal Improvements has been instructed to report on this subject at the next convention, and a general discussion of the subject in the meantime will assist it in reaching a conclusion which will be generally acceptable, and the most important consideration is not so much what term be adopted, as that it be universally adopted and used.

Against the term "house sewers" it is argued that this name should be reserved for the pipes leading from the sewer to the house; also that much of the waste water originates in factories, stores, etc. In reply to the former, we would recommend the use of the term "sewer connection" for the pipe from the house to the sewer. Against the term sanitary sewers we have the argument that both classes of sewer better sanitary conditions, but that neither are for this sole purpose, and that the term, therefore, is not sufficiently self-explanatory.

As to calling the sewers which carry off rain water "drains," this has always seemed to us inappropriate, as the popular conception of a drain is a conduit for re-

moving water from the interior of the soil rather than from the surface of the ground; although the latter is certainly sanctioned by the dictionary. The term "combined sewer" has, we believe, been generally adopted to designate a conduit which carries both kinds of waste water; another reason for calling each kind separately a sewer, and not employing the term "drain." Another and perhaps the most important argument against this term is the fact that, while the strongest of pipe should be used in constructing this class of sewer, the term drain tile or pipe is used by the trade to designate a cheaper grade of pipe, inferior in strength and general character. Also the manner of laying drains is generally greatly inferior to that which should be employed for storm sewers.

We invite discussion of this subject in our columns, and hope that all parts of the country will be heard from.

Census Bureau's Municipal Statistics.

In our issue of September 18th, in an editorial under the above heading, we referred to a rumor which had reached us that the Census Bureau was considering abandoning the collection of statistics of cities, or at least of the physical statistics. We are glad to learn by a letter received from the acting director of the Bureau of the Census that this is not the case, although there may be an intermission in and considerable abridgment of the work done in this line.

When the present director assumed charge of the Bureau, he recognized that the value and usefulness of the annual and other reports are largely dependent upon the promptness with which they are completed and given to the public, and also that there had been in the past such delay as to detract largely from this usefulness. He called to his aid a number of expert special agents to study the present conditions of statistical work of the Bureau, and among the recommendations made by these was the following: "That the annual report on financial statistics of cities for 1912 be completed and published by January 1, 1914, by curtailing the amount of detail to be included; that the schedules and reports for 1913 be similarly curtailed; that the reports for the years 1912 and 1913 be printed without text, except such as is necessary for explanation and definition; and that until these annual reports are brought up to date no further attempt be made to elaborate the reports on municipal financial statistics. This recommendation is based upon the fact that delay in the compilation and publication of the annual municipal reports detracts seriously from their value."

Concerning the general or physical statistics, the acting director, W. L. Austin, writes as follows: "The general statistics of cities, such as were collected for the years 1903, 1905, 1907 and 1909, will probably be omitted for the year 1913. The reorganization of the Bureau and the readjustment of its work have not proceeded far enough as yet to permit of any statement as to just how often this report will be prepared in the future. It may be biennially or quinquennially. Its entire discontinuance, however, has not been considered in any way by the present officials of this Bureau."

Our own opinion is that there would be more value in the general or physical statistics of cities if they were published annually, but if they were collected in much less detail, including only those items which most cities can give with some degree of accuracy. It is of course assumed that the annual reports would be published promptly; that is, that they would appear within six or eight months after the termination of the year to which they apply.

The WEEK'S NEWS

County Road Expenditures—The Scourge of Typhoid—The Nitrogen-Filled Lamp—Motorizing the Fire-Fighters—Commission Government News—Bureau of Municipal Research—Cities Win Suits.

ROADS AND PAVEMENTS

Examination for County Highway Superintendents.

Springfield, Ill.—Over 400 applicants for positions as county highway engineers took the examination conducted by the State Highway Commission in this city, Chicago, Dixon, Peoria, Urbana, East St. Louis, Olney and Carbon-dale. From the eligible list thus created the first county engineers will be chosen for the one hundred counties in the state which have submitted a list of candidates or are willing to accept a superintendent assigned to them by the state board. Knox and McLean Counties have submitted no candidates and will, therefore, have no superintendents, unless they decide to take one later from the eligible list. Statements of requirements were sent out to candidates the first of September, and as the requirements are very strict as to experience, training, etc., a high class of men have taken the examinations. In the counties with few inhabitants and a consequent small amount of money for road purposes, not so much experience is required of the applicant, but in the better class counties the man who becomes superintendent must be a civil engineer, must have had several years experience in handling construction work and must be thoroughly versed in road construction. No one was admitted to the examination except those who had been selected by the county boards in the several counties. If none of the men appointed by the county board pass the examination to-day, the state commission may name some one from the eligible list. Under the provisions of the Tice good roads law no highway construction will be undertaken this year. Consequently when work starts next spring there will be the entire bi-ennial appropriation of \$1,100,000 available, and the county superintendents, working under the supervision of the State Highway Commission, will be expended under their direction. The examination in this city was held in the Senate Chamber, sixty applicants taking the test.

County Spends \$243,000 for Roads.

Flint, Mich.—The County Road Commissioners invested \$243,446.44 in good roads in the county during the last year according to the annual report of the commissioners submitted to the Board of Supervisors. The commissioners have a balance on hand of \$18,611.74, but County Clerk Wertman explained that that amount is not much more than is needed to pay the Globe Construction Company for its work in improving a portion of the Fenton road. During the year the receipts of the commissioners amounted to \$262,058, including a balance of \$37,499.20 left from the previous year. The state rewards received during the year amounted to \$41,783. According to the commissioners' report there is yet a half of the bond appropriation to invest. The board asked for an appropriation for a building in which tools can be kept and repaired during the winter. Of the \$243,446.44 spent, liability insurance accounted for \$1,585.62; township bonds amounted to \$9,739.70; interest on county bonds to \$6,000; surety bond to \$270.22; tools to \$4,374.70; fuel to \$71.60; gravel, \$800, and labor \$467.36.

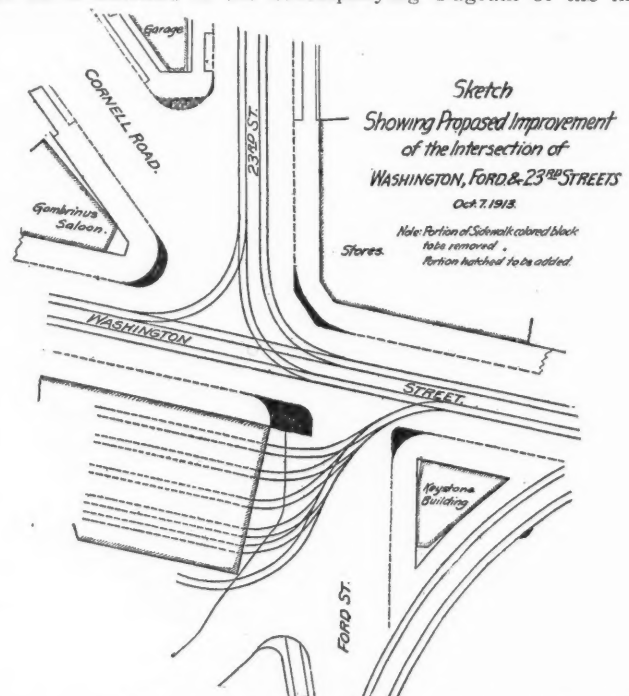
\$78,000 Roads in Lewis County, Wash.

Chehalis, Wash.—County Commissioner T. J. Long, of the Chehalis district, is to have general charge of the expenditure of the \$5,000 of state highway funds apportioned to Lewis County for the National Park highway in Western Lewis County. With this fund the 2.7 miles of the roadway between Ceres and Meskill will be surfaced with crushed rock and gravel at once. A stretch near Walville is also to be surfaced with the metal, thus completing the

only gaps in this highway in Lewis County. When the state money apportioned Pacific County is expended it will then be possible to use the main truck road connecting Lewis and Pacific Counties the year round. In Lewis County the state is engaged in expending \$40,000 on the National Park highway, between Mineral and Morton; \$20,000 has been set aside for the Pacific highway near Toledo; \$13,000 for the Nesika bridge, and the \$5,000 on the National Park highway above referred to making a total of \$78,000 state funds for Lewis County roads.

Eliminating Dangerous Street Corners.

Portland, Ore.—One of the innovations planned by Commissioner Dieck for next year and for which he has made provision in his budget is for the elimination of all right-angle curb corners in the city, especially those which are in congested districts, and replacing them with circular corners to give traffic an opportunity to turn the corners without vehicles going into the center of streets and blocking traffic. An example of what he has planned to do is outlined in the accompanying diagram of the in-



tersection of Twenty-third, Washington, Ford and Cornell streets, where there are sharp turns and protruding sharp curb corners. He proposes to cut down these corners, eliminating a portion of the unnecessary sidewalk space and placing the ground in the street area. This plan will increase the available street area at these intersections by fully 50 per cent. Washington street at the intersection of Twenty-third will be widened between the curb corners from 36 to 46 feet; electric light poles will be removed, and the general appearance of the entire section greatly improved. The entire cost of this work will approximate \$500. This improvement is in general line with his proposed policy of eliminating sharp corners throughout the city. At this point the Portland Railway, Light & Power Company has agreed to remove its poles and co-operate in every manner possible. The total cost of this work as contemplated is estimated at \$33,500. This provides not only for the rounding of the curb corners and increasing the available street area, but the attendant reconstruction of inlets, resetting of hydrants and repaving of street

area. There are about 915 corners in the city, which, he says, need attention. Of the total, 748, he says, are in the urgent class, 74 in the necessary class and 88 in the desirable class. Of those in the urgent class, 507 are on the West Side, 155 in the northeast district and 86 in the southeast district.

SEWERAGE AND SANITATION

Typhoid.

Cumberland, Md.—A score of secretaries and presidents of local organizations met here to discuss means that might be taken to fight the typhoid epidemic in Cumberland. The body decided to hold a gigantic public meeting in an endeavor to awaken the people of the city to the realization that typhoid is an unnecessary evil and to arouse them to a health campaign that will mean the utter annihilation of the disease. John M. Street asked that the city order the removal of the pump handles from all public wells, since he had been informed that of 105 wells recently examined, 100 were found to hold dangerous water. Dr. L. L. Lumsden stated that while the Evitts creek water is more safe for drinking than water from the city wells, still it was not of such purity as could be desired. Discussion after the meeting brought to light the fact that the probable reason that the Evitts creek water has not shown absolute purity was because the filtration plant had a capacity of 6,000,000 while the city was using in the neighborhood of 10,000,000 gallons of water a day. When the system was planned it was deemed that 8,000,000 gallons a day would be entirely adequate for Cumberland. This amount is perhaps nearly twice as much as a town of this size generally consumes. Dr. Lumsden believes that a corps of sanitary inspectors is absolutely necessary in Cumberland. He believes that by the expenditure of about \$6,000 a year extra, that Cumberland can be made practically stainless of typhoid, meaning the saving of hundreds of typhoid cases and scores of lives in this city each year. The government surgeon referred to the milk supply of the city by saying that in his tour of some of the dairies he had found six or eight at which the conditions were so poor as for them to be a menace to the city.

Gloucester, N. J.—At the Gloucester City Board of Health meeting, Secretary Redfield reported that since he had communicated with the authorities at Cooper Hospital regarding the typhoid cases attempts had been made to connect them with cases in Philadelphia. Mr. Claypool, of the Pennsylvania State Department of Health also followed out the probable course of the disease and found that in nearly every case visited by him the source of contamination could be traced to Philadelphia, and that the majority of cases in Philadelphia had been reported from what is known as the Delaware River belt. The report also called attention to the fact that with but one exception Secretary Redfield is in receipt of score cards from the Division of Creameries and Dairies showing that the dairies supplying the dealers here have scored the required sixty points or better, and in the case of the dairy for which a score card has not been received, the State Inspector has advised Dr. Beck that it now meets the requirements of the milk ordinance. President Miner also reported that he had consulted with the Philadelphia inspectors when here, and had given them a report of the analyses he had made of the city water, and the Philadelphia inspectors were engaged with a force of fifty assistants going over the whole valley on both sides of the river to determine the origin of the typhoid fever cases existing in Philadelphia and other cities nearby. President Miner also stated that all the tests made of the city water since the last meeting it has shown that the water was altogether artesian, excepting one test that was a little doubtful. He also stated that the wells all around the basin are being operated by compressed air, and the basin is the fullest he has ever seen it. Mr. Barnard stated he thought that the one test which showed the water to be slightly off came from some contamination in the pipes, as the basin is from ten to twelve feet above the level of the creek, rendering it impossible for the water from the creek to flow into the basin.

Wrightsville, Pa.—A total of 23 cases of typhoid fever is said to exist in Wrightsville. Dr. W. C. Riddle, of the State Department of Health, and County Medical Inspector Dr. J. S. Miller, have been making an investigation of the outbreak and have gathered considerable information regarding the situation in the river borough as to the water and milk supply, which will be submitted to the department. Dr. J. S. Miller, County Medical Inspector of this county, has also been investigating an outbreak of diphtheria in Conewago township, Adams county.

Pay for Sewers Without Water?

Atlanta, Ga.—Whether the city of Atlanta has the right to collect assessments for sewers laid before it has provided water with which to make the sewers available is a question which has been put up to the courts by Attorney E. E. Pomeroy, representing the Edgewood Park Realty Company. Colonel Pomeroy filed a petition for an order restraining the city of Atlanta from executing *fi fas* for several thousand dollars against his clients. In the petition it is contended that the city has gone ahead and authorized contractors to lay many sewers in the sub-division of the Edgewood Park Realty Company, but that it has failed to provide for the laying of water mains there which would make the sewers available. It is contended that sewers without water are of no benefit to property owners, and that the real basis of assessments for public improvements is upon benefits derived thereby. The further contention is urged that not only has the city failed to lay the necessary water mains but that so far as can be ascertained it has made no arrangements to lay them for some time to come. The Edgewood Park Realty Company hopes to obtain a ruling from the court that sewers are of no benefit without water and that the city cannot collect for the sewers until water is provided. Sewers are assessed against the property owners at the rate of seventy cents a running foot. Many other property owners in a similar situation are awaiting the outcome of this case with particular interest.

A Sick Board of Health.

Atlanta, Ga.—Offices of the Georgia Board of Health have been closed by order of Dr. H. F. Harris, its secretary, eleven members of the office force having contracted diphtheria within the last week. Dr. Harris and Dr. L. P. Pattillo are the only persons connected with the State health offices who have escaped the epidemic. Dr. Harris stated that office employees probably had become infected through carelessness on the part of physicians in sending diphtheria cultures through the mails. He said that such cultures frequently are sent in an ordinary envelope, often unmarked, despite the fact that such practices are illegal. Physicians throughout the State, he asserted, have often been warned against this, but many have disregarded the caution. Because of the volume of mail received and opened in the offices of the board, he said, it would have been easy for the office force to contract the disease. Just how long the offices will remain closed Dr. Harris was unable to say.

WATER SUPPLY

State Urges Metering.

Olympia, Wash.—One of the results of Commissioner of Public Utilities C. M. Fassett's successful campaign for the installation of water meters in Spokane will be a movement on the part of the state public utilities commission to have all water corporations, municipal or otherwise, to enforce the use of meters. The use of the water meter by all companies, whether municipal or private, will ultimately solve to a great extent the problems that face the public service commission relative to this class of public utility. is the belief expressed by Frank R. Spinning, member of the commission, who is inaugurating a movement looking toward the adoption of this policy by water companies all over the state. "We have found that the great majority of the complaints that have come before this commission are due to waste of water by consumers," said Commissioner Spinning. "I believe that practically all of the trouble

would be avoided if the general public were economic in their use of water, either through proper personal attention or through the use of water meters." In substantiation of his theory, Commissioner Spinning cites a letter from Superintendent A. Lindsay of the Spokane water department, in which the latter quotes figures showing the great reduction of the cost of water to the consumer of the city following their installation of meters. The figures representing consumers chosen at random over the city, show that under the old flat rate per year the consumer paid an average of \$21.87, while after the installation of the meter and the use of water by quantity the yearly cost was reduced to an average of \$11.63. Superintendent Lindsay, in his reply to Commissioner Spinning's query, said that the real efficiency of a water system was too often judged by the consumer on the basis of pressure and quantity only, and that the pressure and quantity were frequently determined largely by the judicious or injudicious use of water by the consumers.

In his letter to Spinning Mr. Lindsay says in part:

"In order to ascertain the amount of reduction in the cost of water to the consumer under the new method, I take at random from the books a comparison of the flat rate and meter rate in several instances, as follows:

Address.	Approximate size of lot.	Flat rate per year.	Metered rate.
W1311 Carlisle	50x120	\$20.40	\$8.60
W1126 Chelan	50x120	17.60	10.70
W415 Thirteenth	75x120	24.40	10.75
W1504 Tenth	75x120	24.40	12.85
E2914 Seventeenth	50x140	19.60	9.60
E504 Tenth	100x120	24.00	11.45
E815 Euclid	75x120	23.60	16.25
E1213 Illinois	50x120	21.20	10.15
S2025 Grand	100x120	21.20	12.25
E1808 Bridgeport	50x120	19.60	9.45
S1124 Cedar	100x120	28.40	14.55
E1723 Eleventh	50x120	18.00	12.95
Average		\$21.87	\$11.63

"If, after meters are installed, it is found, as has sometimes been the case, that the consumer does not find his bills reduced, then either the flat rate was graded too low for the particular piece of property or the existing meter rate is wrong."

Profitable Water Plants.

Rome, N. Y.—At a special meeting of the Water and Sewer Board it was found that for the fiscal year ending September 30, the total receipts amounted to \$66,990, a gain of \$7,340 over the previous year. The new Fish Creek system was opened January, 1910, and the water revenues for the year before that amounted to \$50,119. President Bedell was authorized on behalf of the board to sign a 10 years' contract with the New York Central Railroad Company whereby the company is to use the Fish Creek water for its trains and other service in this city, the maximum amount of water to be used per day without further action of the board being three million gallons. The company estimates it will require between \$6,000 and \$7,000 worth of water per year. The contract goes into effect at once. It will take about \$7,000 to lay the new water main to the new depot, water troughs, etc., and that amount the company is to advance to the water board, and the company will retain 75 per cent. of the rentals till the amount loaned is paid back to the company. Now that the revenues are to be increased annually through one customer by over \$6,000 a year, it is plainly evident that Rome has a bonanza in its Fish Creek water system. The water is of very good quality for boiler purposes. This was the strong factor which led the Central Railroad Company to enter into a contract for the Rome water. It is expected the board will be able through its sinking fund to retire all the floating bonds of the water department by the time the 20-year bonds are due.

Gridley, Cal.—In a report given by Superintendent E. P. Fagan, of the Gridley Water and Lighting Plant, it was shown that the expenses for September were \$439.20, and the revenue \$937.78, leaving a clean profit of \$496.58 on the lighting department. The receipts for September in the water works department were \$349.22, and the expenses were \$76.80, leaving a profit of \$272.42. The above figures do not show cost of labor or fuel oil which will reduce the profit about \$200.

A Water Free List.

Fort Worth, Tex.—According to a report issued by Water Commissioner Blanke the city of Fort Worth is using annually \$11,333.98 worth of water for public benefit, which goes on the free list. This sum is reached by applying the prevailing rate of 30 cents per thousand gallons. The free list includes water for street fountains, street flushing, churches, cemeteries, street sprinkling, sewer flushing and fire fighting. The report prepared by Commissioner Blanke is from the time the present administration went into office up to Oct. 1, and includes both the south and north sides. The actual cost of the water to the city, according to the report of City Auditor Martel, including interest and sinking fund charges on the water works investment, is to be at least 60 cents per thousand dollars. The amount of water consumed by the various city departments and the cost of same, if paid for, is as follows: Street fountains, north side, 910,575 gallons, cost, \$237.17; street fountains, south side, 5,551,839 gallons, cost \$1,667.70. Churches, north side used 109,525 gallons cost \$32.86; south side, used 1,338,780 gallons, cost \$554.40. Cemeteries, north side, 683,600 gallons, cost \$505.08. Sewer flushing, 17,089,700 gallons, cost \$5,026.90. Street sprinkling, 5,832,000 gallons, cost \$1,749.57. Fire protection, 2,071,900 gallons, cost \$654.30. Street washing, 2,700,000 gallons, cost \$870.

STREET LIGHTING AND POWER

First City to Use Nitrogen-Filled Lamp.

Sterling, Ill.—The new boulevard lighting system of the business section of Sterling will be of the latest type of lamp, the new nitrogen-filled lamp which has only recently come out of the experimental stage. At a meeting, the City Council, by resolution, transferred from the consolidated fund to the boulevard light fund the sum of \$2,500, this being the city's proportion of the new system which the Commercial Club is planning. With this amount as a nucleus, the Public Improvement Committee of the Commercial Club has started the campaign among the property owners and merchants of the city with the expectation of raising the amount needed within a few weeks. The members of the Public Improvement Committee were present at the meeting. Acting Chairman R. A. Kidder of the Public Improvement Committee addressed the Council, telling of the discovery of the new nitrogen-filled lamp and the investigation made by the committee, which had finally decided upon this lamp. The committee estimated the city's proportion of the cost of installation and the current for the remainder of the year to be \$2,500. Mayor Platt and Aldermen Harmon, Little, Gallagher, Doherty, and Hopkins were in favor of the plan.

The special advantages of the nitrogen lamp pointed out are that there is no "burn out" to these lamps; and that they will furnish 500 candle power with a consumption of only 250 watts, this insuring extreme economy in maintenance at one-half the expense of the magnetite arc. In the new lamp the space is filled with nitrogen instead of being a vacuum. Besides their efficiency, which is of the highest order, there are other features of the new lamps very valuable, especially the white color, the high brilliancy and the constancy. The temperature of the filament being several hundred degrees higher than that of the ordinary tungsten lamps, causes the light to be of a very much whiter color, so that it comes closer to daylight than any other form of artificial illuminant except the direct current arc and the special Moore tube containing carbon dioxide. The color is almost exactly like that which can be obtained for a few minutes by running the ordinary tungsten lamp at double its rated voltage. By the use of special color screens it is possible to obtain a true daylight color at an efficiency of about two watts per candle whereas with ordinary tungsten lamps, the efficiency obtained with the proper screens is only ten and one-half watts per candle. The intrinsic brilliancy is five to ten times that of the filament of the ordinary tungsten lamp. Although the intrinsic brilliancy is less than the arc, this difference is more than offset by the fact that the wandering of the crater of the arc prevents as sharp focusing as is possible when the source of light is fixed in position. Because of the freedom from

blackening of the bulb in these lamps and because the helically wound filaments may be so designed that the sagging compensates other changes during life, it is possible to make nitrogen-filled lamps which maintain their volt-ampere candle-power characteristics practically constant during their whole life. The ultimate failure of these lamps is due to the breakage of the filament. The candle power is usually well above eighty per cent. even just before failure.

The solicitation for funds for boulevard lights in Sterling was met with remarkable enthusiasm. That Sterling business men and property owners want the latest light system in Sterling was manifest by the remarkable response made to the committee. The city officials are heartily in favor of the movement, and are lending their efforts in a public spirited manner. Business men did not ask many questions but subscribed very quickly. So enthusiastic are the Sterling people for lights, that it has been decided to add two more blocks. On Locust street, it was decided to extend the system north to Fifth street, and on East Third to Third avenue. This makes twelve blocks of lighting in the business district, and it is now necessary to call a halt, or at least temporary one extending the territory, or the first thing that the club will discover, that the system will cover the entire city.

Washington Gas Below Standard.

Washington, D. C.—That the illuminating power of gas furnished by the Washington and Georgetown Gas Light companies was found to be below the legal standard of twenty-two candles on a number of days when tests were made is the statement made by Elmer G. Runyan, District Inspector of gas meters, in his annual report transmitted to the Commissioners. The report states that on two days during the year the product furnished by the Washington company was found to be below the twenty-two candle requirement. These tests were made at all three stations maintained by the office of the inspector of gas meters. On eight days during the year, according to the report, the illuminating power was found to be below the standard at two stations, and on fourteen days it fell below at some one station. With respect to the Georgetown Gas Light Company, Mr. Runyan states that on twenty-six days the test shows the illuminating power of gas supplied by this concern to be below the required standard. The report of the inspector will be considered by the public utilities commission, as his office, by act of Congress, has been brought under the authority of that board.

City Sued to Test Gas Rates.

San Francisco, Cal.—In an effort to have the city, through the Board of Supervisors, regulate the rates for the sale of illuminating gas as judicial tribunal and not in accordance with its police powers, Arthur Beaver, president of the Light and Power Council, has filed a petition in the State Court of Appeals asking that the city be compelled to show cause why it should not do so. The petition makes the technical point that the Supervisors were created under Article 11, Section 19 of the State Constitution, a judicial tribunal to regulate the rate to be charged for gas and that they have not exercised such powers. It is claimed that the method of regulating the rates is superior to the general police powers of the municipality under which the Supervisors have been acting. It is also stated that the people of the city have not placed rate making power in the hands of the Railroad Commission, as they have the right to do under a recent enactment of the Legislature. The petition says:

"That in open violation of provisions of article 11, section 19 of the Constitution, the defendant (the Board of Supervisors) has from time to time made criminal laws under the general police powers making it a misdemeanor to exceed certain maximum rates therein fixed by persons so using the public franchises.

"That by reason of the failure of the defendant to fix the rates, sitting as a judicial tribunal, the persons or corporations appropriating franchises thereunder are at liberty to fix whatever rates they see fit, and that to threaten them with fine for so exercising their lawful rights, and that to interfere by a criminal law with their rights to freely contract with the inhabitants of the city and county of San Francisco, in the absence of any properly fixed rate by an ordinance making it a crime to charge more than a certain price, is a violation of the fourteenth amendment of the Constitution of the United States, providing that a person shall not be deprived of property without due process of law."

The petition, filed by Attorney Henry B. Lister, states that it makes no difference whether the rates now charged

are reasonable or not, and that the petitioner has no remedy at law or at all. In fact, the petition concerns a method of fixing rates and not the rates themselves.

FIRE AND POLICE

Bridgeport Signal System Pushed Rapidly.

Bridgeport, Conn.—Work on the extension of the underground signal system of the Bridgeport fire department which thus far has been installed at a cost of approximately \$50,000 to that city department, is being pushed rapidly. It has been assured that by the end of the present month all of the new wires laid this fiscal year will be connected up by the Southern New England Telephone Co., which will enable the electrical workers of the fire department to have at least 60 fire boxes connected with the underground system by the middle of the coming month. Preparations are being made to connect up the signal boxes of the police department as rapidly as possible; the wires being laid in the same conduits as the wires of the fire department. The work of covering the main sections of Bridgeport with the underground conduits which was commenced three years ago will be carried along each year until the big undertaking is finished. When the connections are completed to all of the new box posts now placed in position in the city, the entire central section of Bridgeport will be covered with the underground system. It will extend from Norman street on the west to No. 9 engine house on Lafayette street on the south, to No. 4 house in Madison avenue on the north and Hallett street on the east. All of the boxes within these boundaries will then be connected with the underground system. Much more work is to be accomplished before the close of this fiscal year in April of 1914, however. An appropriation of \$10,000 will be exhausted this year. As soon as the wires already laid in the conduits are connected the work of laying more wires to extend the system further into the outlying districts will be commenced. It is anticipated that with the money available for the work this year, it will be possible to extend the underground system to North avenue on the north, to State street and Fairfield avenue junction on the west and eastward to take in No. 6 and No. 8 engine houses. All the boxes in that district will probably be connected with the new system before the end of the fiscal year. The initial cost of installing the underground conduits is heavy, but it is the recognized system in leading cities all over the country and is cheap in maintenance. All the overhead wires of the Police and Fire departments now strung along the streets will be eliminated. President Frank L. Cogill of the Board of Fire Commissioners, a mechanical expert, has had personal charge of the big task of the underground system since it was started three years ago. He was one of the earnest workers for the adoption of the system.

Power Plant Burns.

Goliad, Tex.—After two weeks of darkness and want of water on account of the flood that swept the San Antonio River, Goliad was pitched into darkness for an indefinite period when the light and power plant, including the offices of the company, were completely destroyed by fire. The fire enveloped the building rapidly. There was no water stored in the standpipe and the fire company and citizens could but stand by and watch the structure burn. The total loss is estimated at \$25,000. The company carried \$10,000 worth of insurance. Steps will be taken at once to rebuild the plant on a larger scale.

New Jersey's "Fire Prevention Day."

Trenton, N. J.—By proclamation, Governor Fielder has designated Tuesday, November 11, as "Fire Prevention Day." The Governor states, in the proclamation, that one of the vital problems which the people have for solution is the continual waste of life, energy and property by fire. The "Fire Prevention Day" is to arouse the people of the State to a true sense of the dangers and to an active interest in reducing and ultimately preventing them. He recommends the collection, removal and destruction of all inflammable rubbish and refuse; that all heaters, furnaces and chimneys be inspected and repaired when necessary and urges that all public and private institutions, hotels, factories, theatres, hospitals, asylums and other buildings, other than homes, be

carefully inspected for fire hazards. The Governor also asks the teachers in the schools to talk to the children about "Fire Prevention Day."

Fire Chief Fined.

Chico, Cal.—Fire Chief Lisle Mecum was fined \$100 by the City Trustees for taking his fire engines outside the city limits to fight fire. Mecum recently took a chemical engine outside the limits when property belonging to H. C. Henderson burned. Henderson was on hand and put up the money. He had assured Mecum that in the event the Trustees fined him, he would stand the loss. A city ordinance prohibits the taking of the fire engines outside the city limits to fight fire.

MOTOR VEHICLES

Boston's First Motor Pumping Engine.

Boston, Mass.—Boston will have its first motor-driven pumping engine in a few weeks. Authority has been granted Fire Commissioner Cole to purchase from the American-La France Fire Engine Company, of Elmira, N. Y., a triple combination pumping, hose and chemical engine for \$9,000, the machine to be taken on trial for 30 days and the city to accept it if it meets with the requirements of the department. This engine is said to pump seven hundred gallons per minute against a 120-pound pressure, which excels the requirements of the National Board of Fire Underwriters. As the company agrees to purchase a second-hand engine now in storage for \$900, the net cost of the new apparatus will be \$8,100. This apparatus will be located in the fire station at Byron and Saratoga streets, East Boston, to cover the Orient Heights section. The sum of \$15,000 was allotted months ago for the purchase of motor apparatus for Orient Heights. One motor ladder truck has been purchased and the engine will complete the equipment. It will mean the saving of considerable money, doing away with five horses now used for the engine and hose at that station and give the city the additional service of two men now employed in holding horses while at a fire. Boston has not hastened to equip its department with this style of apparatus. Commissioner Cole has preferred to hear of the experience of surrounding towns and cities before entering into his first contract.

Akron's New Tractor.

Akron, O.—After a test with the new tractor which has been placed on the hook and ladder truck at No. 5 Engine house, Safety Director Dan Stein and other city officials have been convinced that they were very successful in purchasing this piece of apparatus. The most remarkable feat of the tractor was that of climbing North Hill in one minute and fifty-five seconds. It was the first time that a fire truck has ever been taken up North Hill, and the fire fighters were very pleasantly surprised. Akron purchased the tractor from the Couple Gear Freight Wheel Company. It was brought here and installed by Engineer L. V. Hudson, who drove it in the test. Electricity, supplied by large storage batteries, provides the motive power. The power is transmitted to the front wheels—an unusual method. The builders claim that the tractor is able to mount slowly over a high curb with the power pulling on the front wheels. It will run a distance of 30 miles without re-charging the batteries. A charging plant has been installed at No. 5, and the cost of charging the batteries will be small. Councilmen Shaw and Vance, Safety Director Dan Stein, City Electrical Engineer Jewel Olsen, Chief Mertz and Mr. Hudson rode on the truck when the test was made. All were pleased with the results.

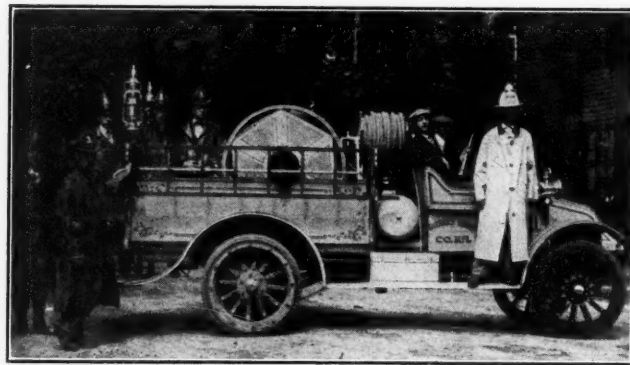
Motor Truck for Carson City.

Carson City, Nev.—The City Council has just purchased for the city a very fine motor fire truck. The machine is one manufactured by the Seagrave Motor Apparatus Company of Columbus, Ohio, and will cost \$5,605 delivered in this city. It is a six-cylinder, air cooled machine carrying sixty-gallon chemical tank with supplies and hose, a thousand feet of fire hose for use on the city mains, an outfit of ladders, hooks, axes, grapples, ropes, lanterns, etc. It will carry from twelve to fourteen men on the running board and will have a speed greater than can be used in the city and sufficient power to carry the car, heavily loaded to any

part of the city or surrounding section. There has been an agitation in the city for the past three or four years for the purchase of suitable fire fighting apparatus. The City Council were disposed to aid the department at all times but were handicapped for the lack of funds. A short time ago the department stated they had a thousand dollars which they would loan to the city to assist in the payment of the machine. The matter was then taken up in earnest by the city Council and it was decided to petition the State Board of Revenue for the permission to borrow a suitable amount of money to purchase a good machine. The permission was granted and the City Council was then in a position to work.

New Auto Truck for Dover, Del.

Dover, Del.—This town has just purchased a splendid new fire truck for the Robbins Hose Company. The machine was built by the United States Fire Apparatus



Courtesy Wilmington Star.

THE NEW DOVER FIRE TRUCK.

Company. The illustration shows the engine, equipment and crew.

York's New Chemical Tested.

York, Pa.—The Vigilant Fire Company's new motor driven chemical engine was given a test on a vacant plot of ground near the College avenue bridge. A building of wood material was constructed and set afire for the try-out. Two representatives from the Boyd Manufacturing Company, Philadelphia, which company installed the Kana-wha air pressure system, had charge. The test was for the purpose of demonstrating the air pressure and it proved successful.

GOVERNMENT AND FINANCE

The Finances of Iowa Cities.

Des Moines, Ia.—The cities and towns of Iowa own property valued at \$28,043,640. Of this \$10,065,145 is invested in water works plants and \$5,161,501 in parks. These cities and towns, 793 in number that have made reports, expended last year \$13,360,160 for municipal purposes and had receipts of \$12,855,024. The 101 cities had receipts of \$10,558,110, and expended \$10,857,859 or \$14.56 per capita. The eight commission governed cities had receipts of \$3,815,184 and paid out \$3,928,271 or \$15.33 per capita. These eight commission cities, with the millage tax in each for municipal purposes, are Des Moines, 37.1; Sioux City, 34.9; Burlington, 38.2; Ottumwa, 48; Fort Dodge, 39; Keokuk, 40, and Marshalltown, 35. All of the 101 cities reported. There were forty-three towns from which reports were not received, The reports tabulated being from 692. The town of Bentonsport has been abandoned as a town. The town of Foster failed to hold an election. New towns incorporated are Alburnett, Berkly, Beaver, Durango, Fostoria, Graf, Grant, Newhall, Oneida and Waterville. State Auditor Bleakly in his report just made recommends civil service for all cities and towns in all departments, and especially as to city clerks. He also reports that the new law authorizing him to send to a town and secure a report where the officials have failed to file it has worked well. He got reports from four cities that way and from five towns. Lack of a force of inspectors prevented getting all the other reports. He recommends that the law as to examination of cities over 5,000 population be extended to all cities.

Commission Government News.

Columbus, O.—Voting 8 to 7, the Columbus charter commission has declined to adopt a resolution outlining tentative plans for a charter providing for a modified federal plan of municipal government. A substitute carrying provisions for a commission manager plan was withdrawn, later introduced as an original resolution and will come before the commission as a special order of business. The commission manager plan will be approved at that time it is believed. The charter agreed upon will be put to a vote in 1914.

Greenville, Miss.—An election has just been held here on the question of abolishing the present charter and adopting the commission form of government for Greenville. Little general interest was manifested and only about half the city vote was polled. The present form of government won over the commission form by the vote of 173 to 168.

Eveleth, Minn.—Eveleth has turned down the commission form of government at the election by a narrow margin. The voters returned 266 in favor of the adoption of the proposed charter and 200 votes against. The state law provides that four-sevenths of the total vote cast is necessary for adoption and the charter lost by just two-sevenths of a vote, provided all votes counted were legal and also provided there were no errors in the count. On account of the closeness of the vote many advocates for the charter have expressed the determination to call for a recount, or possibly contest the election. It is claimed that there were irregularities connected with the management of the polls that might, if taken into court, make another election necessary to decide the question. The proposed charter would have done away with the present ward system, and executive department, and instead would have provided for the management of the city by a board of five councilmen all selected at large. Many votes against the charter were influenced by the circulation among the less informed voters of the story that it was a "Hicken" charter, the same as passed at Duluth, and if it became a law the saloons would be driven out of business; whereas in fact the new charter did not change the present regulation of the saloons in the least.

Athens, Ga.—In the election on commission form of government the opposition won by a majority of 71. Over 1,400 votes were cast in this election.

Dickinson, N. D.—This city cast a vote of six to one against the commission form of government. Three years ago, when the vote was first asked for, the result was two to one against the proposition.

Trenton, N. J.—Responding to a call issued by Governor Fielder, representatives of thirteen cities which have adopted the commission form of government provided for in the Walsh act, met in the executive chamber to consider the formulation of amendments to the law. The conferees, as provided for in a resolution adopted by the Legislature at the second special session, were the chief law officers of each municipality. A temporary organization was effected by the selection of City Counsel Charles E. Bird, of Trenton, as chairman, and Harry Wooten, of Margate City, as secretary. It was agreed at the outset that inasmuch as numerous changes to the Walsh act are likely to be proposed in behalf of various municipalities, such amendment should be submitted to the chairman, printed and distributed for consideration at subsequent meetings. Following the organization there was an informal discussion as to the scope of the work of the commission. The purpose of the commission is to prepare for consideration by the Legislature, an amendment to the Walsh act in such form as to meet the demands of various municipalities, and at the same time preserve the essential provisions of the present law. One of the aims will be to give the act greater elasticity without impairing its usefulness. In outlining the conditions in Atlantic City, Theodore W. Schimff said that a good deal of embarrassment had resulted from the conflicting provisions of the Atlantic City charter and those of the Walsh act. He stated, for example, that the charter and the Walsh act provide different methods in regard to the passage of ordinances. In some instances the city commissioners had been uncertain whether to give precedence to the charter or the Walsh act. Mr. Schimff also objected to the feature incorporated in the amendment of

last winter providing for the operation of the recall upon petition of 15 per cent. of the voters. He characterized this amendment as ridiculous, and argued that the law should be changed by increasing the percentage. He remarked that if one of five commissioners was doing his duty and the other four were not, it would be possible for the four delinquents to put the recall in operation by circulating petitions among municipal employees and their friends. The conferees, generally, seemed to agree with Mr. Schimff in this particular, and upon motion of former Assemblyman Louis H. Miller, representing Millville, a resolution was adopted that the minimum for a recall should be placed at 25 per cent. Unless the commission should change its views, this provision will be incorporated in the report presented to the next Legislature. Mr. Schimff also argued that amendments should be offered more clearly defining the functions and duties of the city commissioners and local boards of education regarding the administration of school affairs. He suggests that the law should clearly state to what extent the commission, which is charged with the financial responsibility for maintaining the schools, should have a say in the regulation of their administration. The city counsel or chief law officer in attendance at the meeting were Theodore W. Schimff, of Atlantic City; Harry Wooten, of Margate City; G. Dore Cogswell, of Beverly; Harrison H. Voorhees, of Sea Isle City; Jonathan Hand, of Wildwood; William A. Stevens, of Long Branch; Clifford K. Read, of Ridgefield Park; Louis H. Miller, of Millville; S. W. Hurd, of Vineland; William H. Parry, of Nutley; John Milton, of Jersey City; Charles E. Bird, of Trenton, and Albert A. Miller, of Passaic.

Mutual Insurance League for Cities.

Marinette, Wis.—Mayor Joseph Fisher, president of the League of Wisconsin Municipalities, has appointed a committee of five to devise a plan for organizing cities into mutual associations, carrying their own insurance. The members of the committee are as follows: H. E. Marquard, Comptroller of Wausau; Henry Stultz, Jr., Mayor of Manitowoc; Ori J. Sorensen, Mayor of La Crosse, and Peter Stoffel, Alderman of Racine.

City Departments Close Up.

Omaha, Neb.—Members of the police department will be asked to take a five-day layoff without pay; health inspectors will be laid off for a month each and garbage collections by the city will be discontinued on November 30, this being declared necessary to meet a shortage in the police and health department funds. City Commissioner J. J. Ryder, Health Commissioner R. W. Connell, the Mayor and City Attorney conferred and decided upon the course outlined. At the first of the year Mr. Ryder asked \$160,000 for the police department, but was allowed but \$157,000 with an understanding that his fund would be increased during the close of the year. A shortage of about \$2,000 now faces the department if the present force is kept up. There are 135 persons on the police department payroll and the average cut necessary to meet the shortage will be \$15. The plan is to distribute these enforced vacations in such a manner as not to reduce the department very much at any one time. The health commissioner has started already to cut down the expenses of his department. The entire garbage collection staff will be laid off November 30 and citizens will be asked to burn their garbage during December. The expenditure of \$25,000 for tornado relief and the taking of \$50,000 from the miscellaneous fund for bond redemption obligation, together with a probable shortage of tax receipts, are the reasons given by the city officials for this situation. Mr. Ryder adds that he will not fill any vacancies in the police department until after the first of the new year. Last year the city suspended garbage collections on November 15, when the Omaha Rendering and Feeding Company, who receives the garbage on the river bottoms, offered to collect the garbage for the city, but this year the company has not made an offer. Health inspectors were given a month's layoff at the close of last year. The appropriations for the year in these three departments are: Police fund, \$157,000; garbage removal, \$26,700; health department, \$30,000.

Bureau of Municipal Research at Work.

Pittsburgh, Pa.—The New York Bureau of Municipal Research, which some time ago was invited to make a survey of the various municipal departments of Pittsburgh's city government, recommends in a report to the finance committee of the city council, that the office of delinquent tax collector be abolished by amendment to existing laws and that the duties of this office be taken over by the city treasurer. The delinquent tax collector's office has been the point of attack in many municipal campaigns, and even the State Legislature has been besieged for its support to this end. The report was made public to-day, and in part says that under the present system the city pays to the tax collector 1½ per cent. for his services. In 1912 his percentage amounted to \$41,479. He pays the expenses of his office, such as clerk hire, postage, stationery, etc., which amounted to \$21,500. His net income therefore last year was approximately \$20,000, double the salary paid to the Mayor of the city. This the commission's report states, results in a loss to the city of \$20,000 annually, inasmuch as the collection could be made by the treasurer's office, with comparatively little addition to the force of this office. The report also argues against the practice of making cash advances and loans to present and former city officials and employees as well as to outside individuals, out of the collections of delinquent taxes. On July 29, 1913, the total advances and loans carried on the books as cash on hand amounted to \$7,704, representing 82 items supported by due bills, salary assignments, notes, receipts, etc. The report is in the hands of the city council, which has not yet been called to consider it.

Philadelphia, Pa.—In a statement declaring the city was "exceeding the speed limit," the Bureau of Municipal Research urged that councils and city administration co-operate and frankly face conditions which at present involve municipal finances. The statement says that municipal Philadelphia can easily save herself from financial chaos if administrative officers, members of councils and citizens will frankly face these facts: That it is absolutely ruinous to increase the debt without increasing at the same time the revenue with which to pay the interest and discharge the debt; that debt increase is justifiable only when it buys permanent properties and improvements; not when it buys perishable services and supplies; that bonds should not be issued for a period longer than the life of the improvements for which they are issued; that provision should be made for the proper upkeep and replacement of properties acquired through bond issues as well as for interest and sinking funds on the bonds themselves; that bonds should be issued in accordance with a carefully formulated plan of permanent improvements extending over a series of years.

STREET CLEANING AND REFUSE DISPOSAL

Erie Starts Free Collection.

Erie, Pa.—After months of delay free collection of garbage in the city have commenced, and the first carload of garbage was hauled to the incinerating plant south of the city. Eight wagons were started on the initial rounds by Superintendent Tracy and two additional wagons will be placed in service immediately. While it is expected that a few hitches will occur until the system is properly established, it is believed that within two weeks plans will be worked out to the satisfaction of everyone. The plant will be in the best of working order by the last of the week. Mayor Stern lighted the first fires in the new plant. The plant has been built under the supervision of the city engineer's department and is believed to be complete in detail. It is planned to handle all the garbage of the city for years to come and was built in the most modern and approved style. The ground on which the plant is situated is in Belle Valley and is reached by the Pennsylvania Railroad. Tank cars will haul the garbage from the loading depot to the plant daily. Superintendent Tracy asks the housewives to drain and wrap the garbage to be hauled by the city wagons, since garbage that is drained and wrapped well is much easier to handle and the collecting wagons can make much better time. Over the paved streets the wagons will be hauled by one mule, but in the

outlying districts where the streets have not been improved two mules will be hitched to the wagons.

Electric Street Cleaners.

Berlin, Germany.—The electric street cleaning apparatus is proving to be very economical. The street cleaning department employs 18 electric sprinkling and scrubbing machines, whose total daily operating and maintenance cost is \$4.41 each. The daily cost of each of ten horse-drawn machines is \$4.57. Each of the electrically-driven machines cleans 55,496 square yards in the average eight-hour day, while each horse-drawn machine cleans 44,013 square yards. The former therefore accomplishes over 26 per cent. more work at about 4 per cent. less cost or, in other words, are about 30 per cent. more economical.

Revenue from Refuse.

Bradford, England.—The annual report of the cleansing and destructor department of the Bradford City Corporation gives some interesting figures. The weight of the carcasses of horses, cattle, sheep, dogs, etc., destroyed was over 47 tons. The weight of fat produced from the "digester" plant amounted to over 3 tons, which was sold for over \$400. During the year 326 tons of fish guano were sold for about \$13,350, an increase of nearly \$4,000 as compared with last year, which is in part due to the introduction of a system of collection and purchase of fish refuse from several neighboring municipalities and district councils. The clinkers or slag produced in the furnaces from the refuse destroyed is manufactured into paving stones, and the street and drainage committee of the city has given an order for 5,000 square yards of "flags" so made, recent experiments having resulted in the production of a lighter colored and more attractive looking flag than formerly made.

RAPID TRANSIT

City Fights Crowded Street Cars.

Tacoma, Wash.—According to Commissioner of Public Safety Mills, the street-car crowding problem will be brought to an issue in a few days. If there are more instances of aggravated disobedience of the ordinance the commissioner has threatened to make some arrests of street car conductors. General Manager Bean, of the T. R. & P. Company, said that the company wanted to obey the ordinance as long as it can do so without too much trouble, and that the conductors are given orders to obey the ordinance. If they do not they are to blame. The street railway chief gave out the first explanation in several months as to the attitude now taken by the company on the overcrowding ordinance. He said that this is a periodic disturbance, and that the company is ready to help in carrying out the ordinance as far as it feels it can afford to do so. Conductors are instructed to help, although in some of the cars we have not yet had the capacity cards placed. This will be done, however. Commissioner Mills said that the outlook for an adjustment of the overcrowding problem is brighter than it has been in some time. The change from the attitude that the street railway officials were responsible for the failure to enforce the overcrowding ordinance came when Inspector Ewen reported he had the names of two conductors who had permitted their cars to become jammed. Mr. Mills said Inspector Ewen told him one car on the Point Defiance line had 118 persons, while a car following close behind—a "tripper" had only 45.

Mayors Ask for Lower Fares.

Newark, N. J.—The Mayors of six municipalities lying in the westerly section of Essex County called on President Thomas N. McCarter, of the Public Service Railway Company, and asked that the trolley fares from Newark to their towns be reduced to five cents. The Mayors were John Espy, of Caldwell; W. Foster Oakes, of Essex Fells; William Little, of North Caldwell; Charles Braunworth, of Roseland; Carl Mau, of Verona, and C. A. Harrison, of West Caldwell.

Motor Omnibuses in Birmingham.

Birmingham, England.—The city of Birmingham is negotiating for the purchase of a privately owned motorbus service with the view to controlling all the local transportation facilities. The city already operates several motorbus services.

MISCELLANEOUS

City Wins \$50,000 in Phone Suit.

Columbus, O.—The city of Columbus has won its eight-year-old suit against the Citizens' Telephone Company to compel the payment of fees under its franchise, the Supreme Court upholding the Circuit and Common Pleas Courts of Franklin County. A settlement under the decision will mean, it is said, at least \$50,000 for the city of Columbus. Under the franchise granted the telephone company by the city of Columbus, the company agreed to pay 1 per cent. on the first \$50,000 gross receipts; 2 per cent. on the second \$50,000, and 3 per cent. on all over \$100,000 gross receipts in any one year. During the first few years of the franchise the company paid the royalty to the city, then stopped on the ground that a ruling of the Supreme Court in a Zanesville case gave them a precedent for refusing to pay the percentage. The company claimed that since the franchise ordinance it received from the city provides that percentages it was to pay the city annually are to go to the general revenue fund, and not into the fund for the repair of the streets, the part of the franchise imposing this payment of percentages is a taxation measure, and therefore beyond the authority of the city to enact. The company's lawyers argued that the state statutes grant telephone companies the right to use streets, etc., that compensation from them shall be used to restore streets to original condition, that the franchise ordinance given by the city required the company to restore the streets, and that, therefore, the city had nothing to give the company in return for the annual payment of percentages. The city responded that such condition might be true as to overhead wire construction, but was not true in the case of conduit construction which the company maintains. It is now up to City Solicitor Bolin to ask the company for sworn statements as to its yearly gross receipts, and then to ask payment of the percentages due. In case the company refuses, it is then up to him to sue for the total amount, recover a judgment under decision of the Supreme Court, and collect against the company. Bolin announces he will take immediate action to carry out the provisions of the franchise. Suit was brought originally by James M. Butler, then city solicitor, to compel the company to pay up. In 1910 the Common Pleas Court rendered judgment in the amount of \$4,462.05 alleged to be due the city for the year 1905 under the franchise. The company refused to settle and carried the case to the Circuit Court, which approved the Common Pleas court judgment. The Supreme Court now affirms the lower courts. Figured at \$5,000 a year, which is said to be low, the aggregate due the city since 1905 would amount to \$40,000.

Grade Crossing Decision in City's Favor.

Spokane, Wash.—The decision of the Supreme Court in the case instituted by the city to compel the Spokane & Inland Empire, the Northern Pacific, Chicago, Milwaukee & St. Paul Railways, and the Washington Water Power Company to install grade separation at Sheridan street and Trent avenue, is regarded a complete victory for the municipality. The opinion which was written by Justice Morris is in effect that the city, through its police powers, may compel the roads to build the grade separation. It is regarded a victory likewise for home rule for the cities of the first class in this state. The decision reverses a ruling by Judge W. A. Huneke of the Spokane County Superior Court. Assistant Corporation Counsel E. E. Sargeant said to-day that although the text of the decision has not arrived it will undoubtedly enable the city to go forward with a new measure to compel the roads to build the separation. Their only avenue of resort to the courts in the future would be as to the reasonableness of the amounts they are required to pay toward the improvement. The Supreme Court has held that the ordinance initiating the first improvement is defective. The grade separation project at Sheridan street has been under consideration for about five years. The present improvement was inaugurated in May, 1912. The plans call for a steel viaduct and a new steel bridge over the river, to be installed by the four companies, whose lines intersect at this point. The estimated cost was \$240,000.

LEGAL NEWS

A Summary and Notes of Recent Decisions— Rulings of Interest to Municipalities

Injuries—Icy Sidewalk.

Kelley v. City of St. Joseph.—Where a walk had been cleared for pedestrians, the snow and ice being thrown to each side, the city is not liable for injuries caused by the formation of a thin film of ice which resulted from the melting and freezing of the snow in question; such defect being practically unavoidable.—Kansas City Court of Appeals, Missouri, 156 S. W. R., 804.

Purchase of Water and Light Plant.

Backus v. City of Virginia et al.—The contract between the city and the Virginia Electric Power and Water Company for the purchase of the water and light plant is valid; and the bonds of \$450,000, issued by the city to provide funds for the payment of the purchase price, are valid obligations of the city.—Supreme Court of Minnesota, 142 N. W. R., 1043.

Areaways in Streets—Rights of Owner.

Wendt v. Incorporated Town of Akron.—Where a municipality consented to an abutting owner's placing cellar stairways and areaways in a public street, the owner is more than a bare licensee, and, until the permission is revoked, the municipality is bound to use ordinary care to prevent casting surface water into such ways; the owner being in a sense an invitee.—Supreme Court of Iowa 142 N. W. R., 1024.

Paving—Substantial Compliance with Contract.

In re Apple and eleven other cases.—That the thickness of the pavement varied in places from that prescribed by the specifications was not ground for holding that the assessments to pay for the paving were invalid, where the work had been accepted without fraud or collusion in procuring the acceptance and such variations were without substantial detriment to the entire work.—Supreme Court of Iowa, 142 N. W. R., 1021.

Appointment of Officers.

People ex rel. Simon et al v. Bradley et al.—Laws 1911, creating the terminal station commission of the city of Buffalo to act under the statute, did not violate Const., providing that all city officers whose election or appointment is not provided for by the Constitution shall be elected by the electors or appointed by such authorities thereof as the Legislature shall designate, and all other officers whose offices may be hereafter created shall be elected or appointed as the Legislature may direct; the members of the terminal commission being new offices and their duties being new duties, except as to a part of them theretofore performed by existing officers.—Court of Appeals of New York, 101 N. E. R., 766.

Defective Streets—Contractor Maintaining Signals.

Schlinski v. City of St. Joseph et al.—Proof of an ordinance requiring every person having the use of any portion of a street or sidewalk for any purpose to place red lights in a conspicuous place in front of such obstructions from sunset until sunrise, and that a contractor engaged in paving a street failed to comply therewith, made a prima facie case of negligence against the contractor, especially where it had contracted to observe all ordinances relative to obstructing streets, maintaining signals, and keeping a passageway open.—Kansas City Court of Appeals, Missouri, 156 S. W. R., 823.

Sidewalk Construction—Ordinance Resolution.

City of Malvern v. Cooper et al.—Under Kirby's Dig., empowering the council of any city to compel by ordinance, resolution, or order abutting owners to construct sidewalks, a city may by ordinance, resolution or order compel abutting owners to construct sidewalks, or it may adopt all of the methods, and a resolution requiring abutting owners to construct sidewalks in accordance with an ordinance previously adopted is but supplementary to the ordinance and an aid in the enforcement thereof.—Supreme Court of Arkansas, 156 S. W. R., 845.

NEWS OF THE SOCIETIES

Calendar of Meetings.

November 20-22.

ALABAMA GOOD ROADS ASSOCIATION.—Annual meeting, Mobile, Ala. J. A. Rountree, Secretary.

November 10-15.

UNITED STATES GOOD ROADS ASSOCIATION.—Meeting St. Louis, Mo. John H. Bankhead, president; J. A. Rountree, secretary, 1021 Brown-Marx Building, Birmingham, Ala.

December 9-12.

AMERICAN ROAD BUILDERS' ASSOCIATION.—Annual Convention, First Regiment Armory, Philadelphia, Pa. E. L. Powers, Secretary, 150 Nassau street, New York City.

November 6-7.

GREAT LAKES INTERNATIONAL PURE WATER ASSOCIATION.—Meeting, Toronto, Canada. Paul Hansen, Secretary, Urbana, Ill.

December 1-2.

AMERICAN SOCIETY OF REFRIGERATING ENGINEERS.—Annual meeting, New York City. W. H. Reed, Secretary, 154 Nassau St., New York City.

December 2-5.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—Annual meeting, New York City. Calvin W. Rice, Secretary, 29 W. 39th St., New York City.

December 8-11.

ASSOCIATION OF AMERICAN PORTLAND CEMENT MANUFACTURERS.—Annual meeting, New York City. Percy H. Wilson, Secretary, Land Title Building, Philadelphia, Pa.

December 10-13.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS.—Annual meeting, New York. J. C. Olsen, Secretary, Polytechnic Institute, Brooklyn, N. Y.

Pennsylvania Water Works Assn.

The twentieth annual convention was held at Atlantic City, N. J., October 21. The following officers were elected: President, J. V. Wilson, of Easton; vice-president, M. K. Watkins, of Mt. Carmel; J. F. Horn, of Vandergrift; N. C. Freck, of Millersburg; secretary and treasurer, F. S. Purviance, of Pittsburgh.

In the course of an address Joseph T. Miller, Pittsburgh, secretary and treasurer of the Pennsylvania Water Company, made a vigorous attack upon the inefficiency of practically all municipally owned public utilities, including water works, gas works and electric light and trolley lines. Only by placing them under direct state supervision, he said, could there be procured the same efficiency which the public now obtains from privately operated utilities. Pennsylvania's new legislation, governing public utilities, which goes into effect on January 1, was dissected by John N. Chester, consulting engineer, of Pittsburgh, who pointed out that radical changes must be made in present bookkeeping methods, and that some standard must be adopted whereby the water works corporations could meet many of the new regulations that will be enforced.

Addresses were made by C. Larue Munson, Williamport, on the new utilities law; John Birkinbrice, Philadelphia, chairman of the Water Supply Commission, on power for pumping; by F. Herbert Snow, State Health Department, and others.

An exhibition of water work supplies and appliances was held in the basement of Haddon Hall.

Florida Mayors' Association.

Work on outlining the program for the big convention of Florida Mayors to be held at Miami during the mid-winter festival has been started by Secretary Ward of the Board of Trade and his office force, to whom this duty was assigned by the festival committee, and when it is completed the invitations to the various Mayors of the state to convene in Miami for the purpose of discussing questions of mutual interest will be issued. Secretary Ward is taking special care in arranging the program, and has sent for programs of other similar conventions. He has about decided that an address or two by men of prominence in civic circles will be necessary, and that a large number of papers should be read by the Mayors themselves.

Several hours will have to be given over, in his opinion, to the establishment of some sort of Mayors' association of Florida, with a proper constitution and by-laws. The idea is to make the Mayors' convention a yearly event, and one of the most important meetings held in the state during the year. It is probably that papers will be read on city sanitation and sewage disposal, police protection and the administrative department, fire protection, municipally-owned public utilities, the commission form of government, city publicity, finances and bonds, the German form of government, securing of industries, the relation of the municipality to the agricultural community about it, paternalism in city government, corruption in city government, etc.

League of Virginia Municipalities.

The annual meeting was held at Roanoke, October 14-15. The following are the officers elected: President, William H. Sargeant, Jr., Norfolk; first vice-president, F. W. E. Hart, Blacksburg; second vice-president, C. C. Vaughn, Franklin; third vice-president, C. O'Connor Goolrick, Fredericksburg; secretary and treasurer, I. C. Brown, Portsmouth.

It was decided that a special meeting be held in Richmond during the second week in January, when a revised copy of the Taliaferro bill concerning the government of municipalities should receive its final examination and approval.

A telegram from the Retail Merchants' Association, of Norfolk, was read by the acting president. This asked the league to indorse the enactment of such legislation as may be necessary to compel the auditors of the different cities to make complete reports, along a uniform system of accounting, so that the taxpayers may be able to check up the receipts and expenditures of their own city, in comparison with other cities of the state. This resolution was adopted by a unanimous vote.

A motion was also passed by the league indorsing legislation necessary to provide for a general notice of sixty days in court actions against cities by the persons injured, setting forth their intentions of bringing suit for such injuries.

League of Minnesota Municipalities.

The first annual meeting was held in St. Paul, October 17. The report of the Resolutions Committee favoring a law that would leave the cities right to grant charters to and control public utility corporations was unanimously adopted.

The report favored a physical connection of all telephone lines and the retention of a municipal manager by the cities in the state. It held that the cities should be supreme in public utilities questions wherever possible, and that the problem is not well enough understood by the people of Minnesota generally to warrant their voting intelligently upon it.

The league governing board will hold district meetings during the year in an endeavor to familiarize the people with the public utilities question and other municipal problems.

Civil Engineers Society of St. Paul.

Following the practice of the American Railway Engineering Association, as decided on at a meeting last spring, committees have been appointed to investigate and report on topics assigned to them. The committees and topics are as follows: Revision of Building Ordinances of the City of St. Paul, George Rathjens, Chairman; Foundations and Bearing Power of Soils in St. Paul, Adolph F. Meyer, Chairman; the necessity for an accurate and systematic system of bench marks referred to one datum in the City of St. Paul, and the publication of same, William Danforth, Chairman; The Collection and Disposal of Garbage and other Wastes in St. Paul, J. F. Druar, Chairman; Comparison of Different Building Codes Regarding Specifications for Concrete, H. H. Burgess, Chairman; Best Method of Highway Construction, J. H. Mullen, Chairman.

City Planning Conference of St. Paul.

An organization meeting was held in the Ordway Building, where an exhibit which will be made permanent had been installed. The committee discussed routing of street car lines, widening of streets, platting of new suburban property and other questions and voted to subdivide the work and refer each line to a committee. A committee on traction lines, railroads and docks was formed yesterday with W. L. Darling, chief engineer of the Northern Pacific, as chairman. George E. Wiley, an architect, was appointed chairman of a committee on public buildings, open spaces and waterways. The Gargoyle Club nominated Mr. Wiley and the Civil Engineers' Society nominated Mr. Darling.

PERSONALS

Connors, John J., has been appointed park commissioner succeeding R. A. Harris resigned.

Danner, H. E., Fremont, Neb., has been appointed assistant light and water commissioner by Board of Public Works succeeding H. J. Bremmers. Mr. Bremmers has been appointed water and light commissioner of David City.

Denney, R. A., Rome, Ga., former chairman of the Board of Public Works, has been appointed a member of the Bond Commission to succeed E. B. Hamilton resigned.

Howard, E. J., Rossville, Kansas, will

fill the office of mayor during the unexpired term of J. Owens resigned.

Lanier, Milton H., Huntsville, Ala., has been elected city commissioner for a term of three years succeeding R. E. Smith.

Lyons, Pat. J., Mobile, Ala., has been elected mayor under the commission form of government succeeding Lazarus Swartz. Mr. Swartz will still be a commissioner.

Ninestein, A. H., Blackville, S. C., has been elected mayor.

Slowe, Daniel J., Scranton, Pa., has been appointed division superintendent of state highways. He will report to Engineer John I. Reigal who has charge of the division headquarters.

Stack, J. P., Beloit, Wis., has been declared mayor by the court. His election was contested by R. M. Anderson.

Southwick, E. A., Libby, Mont., has been elected mayor to fill the term of Thomas Switzer, resigned.

Wellener, J. S., Portsmouth, Va., has been elected member of the Board of Health. Sanitary Inspector D. W. Murden has been re-elected secretary.

Wilson, M. A., Fort Meade, Fla., has been elected mayor.

The following city officials have been elected in Connecticut:

Waterbury—Mayor, Martin Scully.

New Haven—Mayor, Frank J. Rice, re-elected for a third term.

Bristol—Mayor, James Cray.

Norwalk—Mayor, Francis I. Burnell.

NEW APPLIANCES

NORTHWESTERN MIXERS.

Machinery Designed for Supplying Concrete for Pavement Foundations, Form and Sidewalk Work.

Every one will realize that no one size or style of mixing machine ever designed will answer every man's requirements. To meet the variety of demands the Northwestern Steel and Iron Works, Eau Claire, Wis., manufacture three types of mixers—the Cone Batch, the Twin-Screw Continuous and the Triangular Sidewalk Batch Mixer. The company manufactures every part of these machines, operating for the purpose their own foundries, brass works, forge shops, pattern works, machine shops, grinding rooms, assembling rooms, etc.

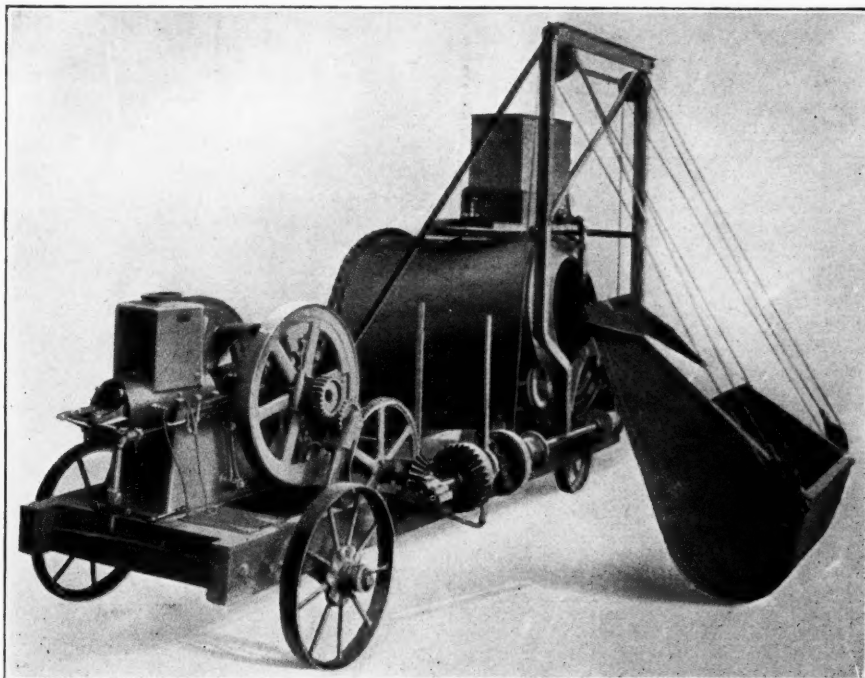
The Northwestern Cone Batch Mixer is made in large sizes suitable

for street paving, retaining walls, bridges or any heavy work. The mixer is of the drum type, with the cylinder placed transversely in relation to the truck which carries it. Materials may be thrown directly into the drum as it is low down or a loading skip of the ordinary elevating type may be used. The point of discharge is high enough to permit loading into a wheelbarrow. There is a door and chute at the discharge end which makes it possible to take a single shovelful of concrete from the mixer or to discharge the whole batch.

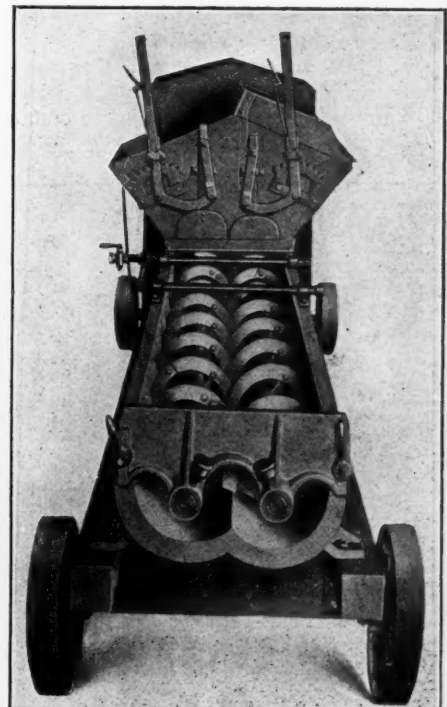
Some details of the Cone are worth special notice. The mixing blades give the materials a forward and back motion in addition to the cascade principle. The machine may be loaded by wheelbarrows from a platform 24 to

30 inches high. In dumping the mixer a lever is used which opens the door to any extent from an inch to wide open. The paddles in the drum are slightly raised from the shell; they are also slightly flexible. Hence they do not clog easily with cement and can be cleaned readily. The drum proper consists of sheet steel and the two heads are cast semi-steel. The gasoline engines supplying power are built by the company for the purpose. The drum is driven by a chain. Levers operating the engine, hoist and water are all at the center of the machine, in easy reach of the operator.

The hoppers slope down to a common center at the extreme end of the mixing trough. In each hopper are blades which force the material out



CONE BATCH CONCRETE MIXER.

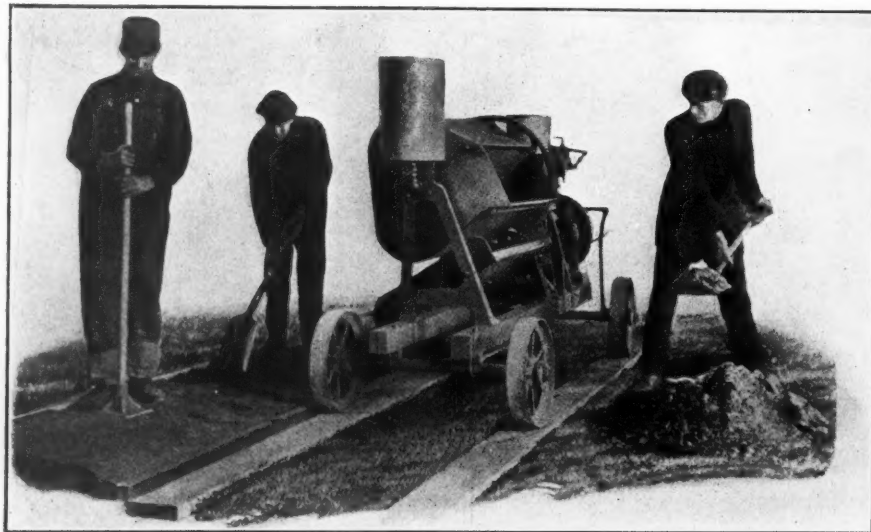


TWIN SCREW MIXER.

of the opening at the front of the hopper. This force feed, resembling in a way that of a pump, is said to be as even and positive as the flow of water from a pump. The proportion of sand and cement is regulated by raising or lowering two gates controlled by a lever at the top of the hopper.

The Northwestern Twin-Screw Continuous Mixer was designed particularly for block work, tile plants and for contractors who want a light, portable outfit. However, every contractor has his own way of doing things and some might prefer it for general purposes. It is one of the favorite types of mixers. The large wheels, 18 and 30 inches in diameter, make the machine easy to move. The truck is 7 feet long, 17 inches wide and 10 inches deep. Instead of the more common mixing blades steel spirals are used. The screws are 9 inches in diameter, bar steel, mounted on heavy cold rolled steel shafting, with heavy steel spuds passing through the shafting and riveted to the spiral flights.

The Northwestern Triangular sidewalk batch mixing machine is a light, portable, compact machine, designed particularly for sidewalk and curb work. The drum is of a closed type, built of sheet steel with cast iron heads. The door moves inward, swinging back clear to the opposite side so as not to interfere with the loading. The door is controlled by a single lever at one end. The machine is loaded on one side and discharged on the other. The frame is tilted towards the discharge side so as to dump the material as far as possible from the machine. A chute carries the concrete still further from the machine. An eight-gallon water tank is elevated above the drum. The engine is a three horse-power air-cooled type. The engine is back-geared to run the mixer about 15 to 17 revolutions per minute. Power is transmitted through a friction clutch. The drum is 36 inches long, 26 inches in diameter. The machine will hold a bag of cement with 4:1 mix or half a sack for other combinations.



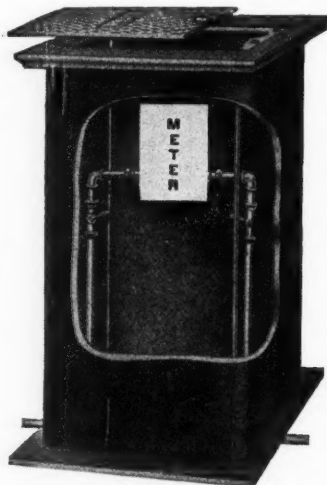
LAYING SIDEWALK WITH NORTHWESTERN TRIANGULAR MIXER.

METER BOX.

Combination of Vitrified Tile and Cast Iron Used by Modern Iron Works.

The modern Iron Works, Quincy, Ill., make the Eclipse meter box which is composed of a special rectangular vitrified tile body, with rounded corners, a heavy cast-iron top frame and lid, and a cast-iron base or bearing plate, open in the center. The top and bottom castings are connected and held securely in place with four bolts in the corners.

The tile is especially moulded and burned for this purpose, with the view of securing the most space for meter and couplings, the greatest strength and the minimum of breakage in trans-



ECLIPSE METER BOX.

sit. In shipping, the tile is placed flat on the side and does not roll around as is the case with round tile, and there is practically no breakage.

The tile is made 10x14 inches inside, to accommodate $\frac{1}{2}$, $\frac{3}{8}$ and $\frac{3}{4}$ meters, and in lengths as desired. The shorter lengths are used in the South, where no frost conditions are involved, and in the latitude of Indianapolis, St. Louis or Kansas City a tile 24 inches long meets every requirement.

The top frame and lid are cast heavy to prevent breakage. The lid is

neatly checkered and has the word "Meter" in the center. The lock bolt is brass, with five-sided head, recessed in the lid, requiring the same wrench as the ordinary Buffalo curb box. The bottom plate is plain and of sufficient area to give the box a good bearing and allow of no settlement. The four bolts have tire bolt heads which fit in countersunk holes in the top frame under the lid and do not show when the box is closed.

INDUSTRIAL NEWS

Cast Iron Pipe.—Chicago. There have been no municipal awards of consequence, but routine orders are fair in volume. Quotations: 4-inch, \$28; 6 to 12-inch, \$26; 16-inch and up, \$25. Birmingham. Manufacturing continues on the same scale as recently. Quotations: 4-inch, \$22.50; 6-inch and up, \$20.50. New York. Market is quiet. Quotations: 6-inch, \$23 to \$23.50.

Lead.—Quotations: New York, 4.35; St. Louis, 4.20.

Fire Engines.—The American La France Fire Engine Company, Elmira, N. Y., is having plans completed for an addition to its manufacturing plant, to be 120 by 130 feet and one or two stories.

Water Softening.—Through the efforts of W. T. Minos, of the Industrial Committee of the Chamber of Commerce, the Permutit Company, 30 East 42d street, New York, will establish a branch in Cincinnati. For the present the western branch will handle the product made in the New York plant, but later it is expected to establish a factory in Cincinnati.

Road Grading Contest.—A competition of road grading machines was held recently in Salem township, Champaign county, Ohio. The following is the report, signed by J. R. Yoder, the superintendent of the contest:

Gentlemen:—In the contest between the Huber road roller with the Galion Ideal grader and The Ohio Tractor with the Road King grader I find the Huber roller with Galion Ideal grader built 1,500 feet of road 27 feet 1½ inches wide, at a cost of \$4.62 for fuel.

The J. D. Adams Co. with Ohio Tractor and Road King grader built 973 feet 24 feet 8 inches wide, at fuel cost of \$6.80. The Huber company scarified their road in one round, the Adams company in four rounds. The Galion Ideal grader cut 85/7 inches deep and moved material 5 feet 8 inches average; Road King cut 6½ inches deep, moved 4 feet 4 inches. Huber roller with Galion Ideal grader worked 11 hours on gravel and 11 hours and 30 minutes on sod; Adams company 14 hours and 45 minutes on gravel, no sod to contend with.

Time of firing up, oiling and starting: Huber roller, 22 minutes; Ohio Tractor, 10 minutes.

Time, changing from front trucks to roller: Huber roller, 15 minutes; Ohio Tractor, 25 minutes.

ADVANCE CONTRACT NEWS

ADVANCED INFORMATION BIDS ASKED FOR

CONTRACTS AWARDED ITEMIZED PRICES

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also correction of any errors discovered.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREETS AND ROADS				
Wash., Pasco	Nov.	1.	Highway construction	C. C. Robinson, Co. Clk.
Minn., Duluth	Nov.	1.	State highway	O. Halden, Co. Aud.
Mo., Hannibal	noon, Nov.	1.	Sidewalk construction	W. H. Youse, City Clk.
Ia., Des Moines	noon, Nov.	1.	Grading	D. H. Moffitt, Co. Aud.
Tex., Calvert	10 a.m., Nov.	1.	50 miles gravel highway	Co. Aud.
Ill., Alton	9 a.m., Nov.	1.	Paving alleys	J. C. Falstich, Pres. B. L. I.
Cal., Santa Bara	10 a.m., Nov.	3.	Grading and paving 6,000 lin. ft.	C. A. Hunt, Clk. Bd. Supedv.
Pa., Allentown	4 p.m., Nov.	3.	Grading	T. P. Wenner, Sec. School Bd.
O., Akron	1 p.m., Nov.	3.	Fill of washout in Northampton Twp.	S. A. Wild, Clk. Bd. Trustees.
Ind., Newport	10 a.m., Nov.	3.	Grading, gravelling and macadamizing	Bd. Co. Commissioners.
Tex., Galveston	11 a.m., Nov.	3.	Shelling, grading, concrete culverts and bulk heading	J. M. Murch, Co. Aud.
Conn., Waterbury	7.45 p.m., Nov.	3.	Grading	J. J. Fitzgerald, Clk. B. Educ.
Ind., Oxford	Nov.	3.	Paving	J. W. Johnson, Pres. Bd. Twn. Trus.
Ind., Franklin	2 p.m., Nov.	3.	Improving gravel	H. L. Knox, Co. Aud.
Ind., Hammond	10 a.m., Nov.	3.	Paving and grading	J. L. Rohde, Ch. Bd. Pub. Wks.
Kan., Kansas City	Nov.	3.	Macadam	F. M. Holcomb, Co. Clk.
O., Northampton	1 p.m., Nov.	3.	Repairs	S. A. Wild, Clk. Bd. Twp. Trus.
Ind., Williamsport	9 a.m., Nov.	3.	Construction in Steuben and Medina Twp.; gravel construction in Kent Civil Twp.	D. H. Coffitt, Co. Aud.
N. J., Red Bank	5 p.m., Nov.	3.	5,300 sq. yds. paving and reinforced concrete	A. C. Harrison, Boro. Clk.
Ala., Brewton	Nov.	3.	5 miles graded road	Bd. Co. Comrs.
O., Youngstown	noon, Nov.	3.	Construction of wall	W. H. McMillin, Clk. Pub. Serv.
Fla., Pensacola	2 p.m., Nov.	3.	Sidewalks	A. Greenhut, Mayor.
Ind., Green Castle	2 p.m., Nov.	3.	6,615.8 ft. macadam	C. H. Airhart, Co. Aud.
Ind., Jackson	2 p.m., Nov.	3.	Macadam	J. Cronin, Jr., Co. Aud.
Wash., Prosser	Nov.	3.	Grading and gravelling five miles	C. D. Walter, Co. Engr.
N. J., Elizabeth	8.30 p.m., Nov.	3.	Granite block on concrete foundation	W. P. Neafsey, Str. Comr.
Ind., Vevay	1 p.m., Nov.	3.	Road in Pleasant Township	J. W. Smith, Co. Aud.
La., Lake Arthur	Nov.	4.	83,000 sq. ft. concrete sidewalk, combined curb & gutter	Town Clerk.
Ind., Vincennes	2 p.m., Nov.	4.	Gravel	J. T. Scott, Co. Aud.
Ind., Shelbyville	7.30 p.m., Nov.	4.	Curbs and sidewalks	L. E. Webb, City Clk.
Ind., Marion	2 p.m., Nov.	4.	Four roads	E. H. Kimball, Co. Aud.
O., Cadiz	2 p.m., Nov.	4.	750 cu. yds. slag or limestone for Green Twp.; 750 cu. yds. limestone for Athens Twp.	Co. Aud.
Ind., Lawrenceburg	noon, Nov.	4.	Grading, draining and crushed stone paving	W. S. Fagaly, Co. Aud.
Ind., Rensselaer	2 p.m., Nov.	4.	1 1/4 miles stone road improvement	J. P. Hammond, Co. Aud.
Ind., Lebanon	1 p.m., Nov.	4.	Grading, draining and gravelling roads	D. M. Clark, Co. Aud.
Ind., Wabash	1.30 p.m., Nov.	4.	Construction roads	Dan Showalter, Co. Aud.
Pa., Grafton	5 p.m., Nov.	4.	300 lin. ft. of street	F. J. Huffman, Boro. Clk.
Ind., Washington	2 p.m., Nov.	4.	Constructing roads	Lew S. Core, Co. Aud.
Ill., National City	noon, Nov.	4.	Granitoid sidewalk	F. M. Sheppard, Vil. Clk.
Ky., Louisville	10.30 a.m., Nov.	5.	Furnishing 1,500 yds crushed stone and screenings	J. R. Gaines, Co. Rd. Engr.
N. Y., Buffalo	11 a.m., Nov.	5.	Improving portions of sundry streets	F. G. Ward, Comr. Pub. Wks.
Ind., Princeton	10 a.m., Nov.	5.	Gravel	W. T. Roberts, Co. Aud.
Ind., Bloomington	2 p.m., Nov.	5.	Gravel	W. F. Kinser, Co. Aud.
O., Columbus	2 p.m., Nov.	5.	Grading and waterbound macadam	J. R. Markert, St. Hwy. Comr.
Ind., Rockville	1.30 p.m., Nov.	5.	Gravel	J. E. Elder, Co. Aud.
Ind., Crown Point	Nov.	5.	Gravel	C. A. Johnson, Co. Aud.
Ind., Logansport	10 a.m., Nov.	5.	Three macadam roads in Jackson Township	J. E. Wallace, Co. Aud.
La., Lafayette	Nov.	6.	Fifteen miles cement sidewalks	L. J. Voorhies, City Engr.
Ind., Crown Point	noon, Nov.	6.	Gravel road	Co. Comr.
Ind., Mt. Vernon	2 p.m., Nov.	7.	Two miles and 3,181 ft. road improvement	J. R. Haines, Co. Aud.
Ind., Huntington	10 a.m., Nov.	7.	Grading, draining and paving	H. Guthrie, Co. Aud.
N. J., Millville	3.30 p.m., Nov.	7.	Culvert	Walter S. Kates, Dir. of Sts.
Ill., Pekin	Nov.	8.	1,816 sq. yds. brick paving; 650 ft. concrete curb and gutter	J. R. Seibert, City Engr.
Ind., Marion	10 a.m., Nov.	10.	Road repairs	W. T. Patton, Co. Aud.
Ind., South Bend	Nov.	10.	Grading, draining and paving	C. Sedgwick, Co. Aud.
O., East View	noon, Nov.	10.	2 1/2-inch stone slag sidewalks	A. A. Smith, Vil. Clk.
Mont., Hamilton	Nov.	10.	Road construction	Bd. Co. Comrs.
La., New Orleans	noon, Nov.	10.	Main road about 9 miles long	W. E. Atkinson, State H. E.
Ind., Fort Wayne	10 a.m., Nov.	10.	Road improvement	C. H. Brown, Co. Aud.
Ind., Indianapolis	10 a.m., Nov.	10.	Road repairs	W. T. Patten, Co. Aud.
Mich., St. Joseph	10 a.m., Nov.	12.	Grading 26 miles	Bd. Road Comrs.
Ga., Savannah	noon, Nov.	13.	Furnishing 3,000 cu. yds. cement gravel	G. R. Butler, Clk.
Mont., Dillon	10 a.m., Nov.	14.	50,072 ft. of wagon road	J. S. Baker, Clk.
SEWERAGE				
O., Maumee	noon, Nov.	3.	Sewer	Geo. V. Raab, Vil. Clk.
N. J., Perth Amboy	8.30 p.m., Nov.	3.	12-inch sewer	Geo. M. Adair, Str. Comr.
Mo., Potosi	Nov.	3.	Sewer system	C. H. Richeson, Mayor.
O., Bedford	Nov.	3.	Sewers	C. C. Lowe, Vil. Clk.
Okla., Marietta	5 p.m., Nov.	3.	Sewers	City Clk.
Ia., Forest City	3 p.m., Nov.	4.	Tile and open work	C. K. Nelson, Co. Aud.
Pa., Norristown	8 p.m., Nov.	4.	8-inch sanitary sewer	C. C. Rambo, Ch. Sew. Com.
Ariz., Ft. Huachuca	10 a.m., Nov.	4.	12-inch tile drain	E. S. Walton, Constr. Q. M.
Ind., Loogootee	Nov.	5.	Concrete and vitrified pipe sewers	City Clk.
N. J., Paterson	4 p.m., Nov.	5.	Sewers	H. J. Harder, City Engr.
N. J., Elizabeth	2.30 p.m., Nov.	5.	Sewage purification plant at sanatorium	J. L. Bauer, Co. Engr.
N. J., Belleville	9.30 a.m., Nov.	5.	Sanitary sewers	F. T. Shepard, Twn. Engr.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Ill., Chicago	.....noon, Nov.	6..	Intercepting sewers	J. McGillen, Clk. Bd. Trus.
Ia., Dubuque	.....Nov.	6..	900 lin. ft. 8-inch vitrified pipe sewer	J. A. Danney, City Engr.
Minn., Mankato	.....2 p.m., Nov.	6..	Digging ditch No. 33	C. L. Kennedy, Co. Aud.
Ind., Brazil	.....7.30 p.m., Nov.	7..	Sanitary sewers	J. W. Williams, City Clk.
Wis., Black River Falls	.....5 p.m., Nov.	8..	Sewer	City Clk.
O., Wapakonta	.....Nov.	12..	Intercepting sewer and accessories	Hy. Moser, Dir. Pub. Serv.
D. C., Washington	.....10.30 a.m., Nov.	13..	Vitrified pipe sewer	Maj. F. C. Boggs, Gen. Pur. O.
N. J., Newark	.....Nov.	18..	Sewers	J. S. Gibson, Clk.
WATER SUPPLY				
Kan., Olathe	.....Nov.	1..	Hydrants, valves and castings, 100,000 gallon tank and centrifugal pump	S. P. Howland, City Clk.
Mo., Potosi	.....Nov.	3..	Water works system	C. H. Richeson, Mayor.
Okla., Marietta	.....5 p.m., Nov.	3..	C. I. pipe and hydrants, water tower and tank, pumping engine and electrical outfit	City Clk.
Ill., Cicero	.....3 p.m., Nov.	3..	Water supply pipe	Board Local Imps.
N. C., High Point	.....4 p.m., Nov.	3..	3,000,000 gallon reservoir with 2 centrifugal pumps	Fred. N. Tate, Mayor.
Mass., New Bedford	.....3 p.m., Nov.	4..	Composition castings	R. C. P. Coggeshall, Clk.
D. C., Washington	.....10 a.m., Nov.	4..	Water meters for Navy Yard, Mare Island, Cal.	T. J. Cowie, Paymaster Gen. U. S. A.
N. J., Trenton	.....2.30 p.m., Nov.	5..	Meter house and blacksmith shop	F. Thompson, City Clk.
O., Columbus	.....Nov.	5..	200 fire hydrants	Dir. of Pub. Serv.
Pa., Norristown	.....3 p.m., Nov.	5..	2,050 ft. 12-inch c. i. pipe	Trus. of State Hospital.
Ill., Princeville	.....8 p.m., Nov.	6..	Digging artesian well	F. W. Cutlin, Vil. Clk.
Tex., Longview	.....7.30 p.m., Nov.	6..	Water filtration plant	L. L. Eddens, City Treas.
N. Y., Middletown	.....Nov.	7..	Repairing 2 boilers	State Hospital Com.
Wash., Oroville	.....Nov.	10..	Oil burning or distillate 50 H.P. engine	City Clerk.
O., East View	.....noon, Nov.	10..	Six-inch water mains	A. A. Smith, Vil. Clk.
N. J., Highland Park	.....Nov.	13..	Motor pumping engine	Council.
O., Frankfort	.....Nov.	14..	Water works	N. P. Weishart, Vil. Clk.
LIGHTING AND POWER				
D. C., Washington	.....Nov.	1..	Power house for U. S. Radio Station, Jupiter, Fla.	H. R. Stanford, Ch. Bur. Yds. and Docks, Navy Dept.
Ia., Welsh	.....8 p.m., Nov.	3..	Electric light plant	E. S. Greer, Mayor.
Mich., Highland Park	.....Nov.	3..	Lighting system	L. D. Beckley, Supt. Pub. W.
Man., Winnipeg	.....Nov.	4..	Electrical switching gear and accessories at power house	M. Peterson, Sec. Bd. Control.
N. C., Wilson	.....3 p.m., Nov.	4..	Water tube boilers, two 500 k.w. units, condensers and switchboard	E. A. Darden, Sec. Bd. P. Wks.
Pa., S. Williamsport	.....6 p.m., Nov.	5..	Lighting system	O. W. Hauser, Boro. Clk.
T. H., Pearl City	.....Nov.	8..	100 K.W. motor generator set & switchboard accessories	Bur. Yds. & Docks.
Ind., Richmond	.....11 a.m., Nov.	8..	Installation electric light system at county infirmary	L. S. Bowman, Co. Aud.
Pa., Harrisburg	.....noon, Nov.	8..	Furnishing underground cable	C. E. Diehl, Supt. Police Dept.
Cal., Hermosa Beach	.....Nov.	21..	Furnishing and installing 8 ornamental lighting posts	City Clerk.
FIRE EQUIPMENT				
N. Y., New York	.....Nov.	3..	2 gasoline fire engines	Depot Q. M., U. S. A.
N. J., Belleville	.....9 p.m., Nov.	5..	One auto combination pumping, chemical & hose wagon	E. E. Mathes, Twn. Clk.
N. J., Highland Park	.....8 p.m., Nov.	13..	Fire engine	Jas. R. Earle, Boro. Clk.
Mass., Holyoke	.....4.30 p.m., Nov.	18..	Office apparatus for fire alarm system	P. M. Judd, Ch. B. Fire Com.
D. C., Washington	.....2 p.m., Nov.	18..	Installing 2 motor 2-wheel tractors and equipment	District Comrs.
BRIDGES				
Ind., Noblesville	.....Nov.	1..	Construction	G. Griffin, Co. Aud.
O., Cleveland	.....noon, Nov.	3..	Iron railing for approaches	W. J. Springborn, Dir. Pub. Ser.
N. J., Elizabeth	.....2.30 p.m., Nov.	3..	Bridges	J. L. Bauer, Co. Engr.
Ind., Lawrenceburg	.....noon, Nov.	3..	Bridge	W. S. Fagaly, Co. Aud.
Ind., Brookville	.....1 p.m., Nov.	3..	Repair of bridge	C. G. Reifel, Co. Aud.
Cal., Santa Barbara	.....10 a.m., Nov.	3..	Two concrete girder bridges	C. A. Hunt, Co. Clk.
Pa., Pittsburgh	.....Nov.	3..	Reinforced concrete bridge approaches	C. A. Finley, Act. Dir. D. P. W.
Kans., Wichita	.....Noon, Nov.	3..	Concrete bridges	H. M. Barrett, Co. Clk.
N. J., N. Brunswick	.....2.30 p.m., Nov.	3..	Two bridges	J. L. Bauer, Co. Engr.
Okla., Grandfield	.....noon, Nov.	3..	Steel bridge	R. O. Ray, Clk., Frederick.
N. C., Boyds Ferry	.....10 a.m., Nov.	3..	Steel draw bridge	B. Bell, Clk., Greenville.
S. D., Britton	.....Nov.	4..	Bridges and culverts	C. Mohn, Co. Audr.
Okla., Enid	.....10 a.m., Nov.	4..	Bridges	Co. Clk.
Kan., Mankato	.....Nov.	4..	Reinforced concrete bridges and superstructures	Co. Clk.
Ind., Amboy	.....noon, Nov.	5..	Repairs	F. K. McElheny, Co. Aud.
Ill., Edwardsville	.....2 p.m., Nov.	5..	Concrete culvert and spillway	Highway Comrs.
Okla., Enid	.....5 p.m., Nov.	5..	Bridges	John Flannagen, Clk.
O., Marietta	.....noon, Nov.	5..	Bridges	H. Burton, Co. Aud.
O., Dayton	.....10 a.m., Nov.	6..	Sewer and concrete culvert	W. H. Aszling, Sec. Co. Comrs.
O., Cincinnati	.....noon, Nov.	7..	Repairing bridges	A. Reinhardt, Co. Clk.
MISCELLANEOUS				
Iowa, Dakota	.....Nov.	1..	Drainage, and 50,000 ft. of tile	J. G. Devine, Co. Aud.
Ga., Atlanta	.....10 a.m., Nov.	1..	Sanitary line, terra cotta pipe and Portland cement lubricating and illuminating oils	S. Smith, Ch. Com. Pub. Wks.
Tenn., Chattanooga	.....Nov.	1..	Two runabout automobiles	T. C. Betterton.
N. Y., Brooklyn	.....12.15 p.m., Nov.	1..	Subway	Pub. Serv. Comm.
Tex., Dallas	.....Nov.	3..	Heating and ventilating system, plumbing and elevators for jail building	Co. Auditor.
Ind., Covington	.....Nov.	6..	Sixteen voting machines	Co. Comrs.
O., Youngstown	.....noon, Nov.	6..	Collection of garbage	D. C. Steventon, Sec. B. II
N. Y., New York	.....12.15 p.m., Nov.	10..	Construction of section of Subway	Pub. Ser. Commn.
N. Y., New York	.....12.15 p.m., Nov.	12..	Construction of portion of subway	Ed. E. McCall, Ch. P. S. C.
Tex., Port Arthur	.....noon, Nov.	20..	Lock and dam canal	Jas. F. Wood, Engr.
D. C., Washington	.....3 p.m., Nov.	28..	Construction U. S. Post Office at Cambridge, Ohio	O. Wendroth, Superv. Arch

STREETS AND ROADS

Birmingham, Ala.—Ordinance has been passed for improvements on Ridge Park Ave. and on Rose Ave.

Birmingham, Ala.—Construction of fine boulevard between Birmingham and Montgomery is being planned.

Clanton, Ala.—Plans looking to immediate construction of a Birmingham-Montgomery highway are being discussed.

Mesa, Ariz.—It has been decided to issue bonds and pave four blocks of Main St. and all of MacDonald St.

Phoenix, Ariz.—Bids will shortly be called for paving alley back of Valley bank and south side of McDowell road.

Fresno, Cal.—Fresno County Supervisors have decided to apply for purchase of state highway bonds to extent of \$150,000. This amount is sufficient to construct state highway from Fresno city to the southern county line, distance of 20 miles. State Highway Com-

mission had previously agreed to construct 20-ft. highway 4 ft. in excess of regulation width from Fresno to Fowler, a 10-mile stretch.

Grass Valley, Cal.—Chamber of Commerce will endeavor to get Supervisors to purchase State highway bonds in order to insure lateral from Auburn to this city and on to State road via Nevada City.

Columbus, Ga.—Pasco County is planning to build 40 miles of roads.

Roseville, Cal.—Town Trustees have decided to engage engineer to determine whether or not city cannot construct for \$15,000 city's link in State Highway. Bonds of \$20,000 were voted for the work. Roseville Bank & Trust Co. has agreed to take \$10,000 worth of the bonds at 5 per cent. and will take additional \$5,000 provided citizens will raise a bonus of \$300.

San Bernadino, Cal.—County Highway Commission have met with Board of Supervisors in executive session and definitely decided upon roads that will be included for improvement in \$1,750,000 road bond election which will be called probably about middle of December.

San Francisco, Cal.—Plans are now in hands of Board of Supervisors for widening, improving and bituminizing of Corbett Rd.

San Francisco, Cal.—Ocean Ave., westward from San Jose Ave. to Pelham Ave. is to be paved with bitumen immediately by city, opposite Balboa Park.

San Jose, Cal.—Failure of Federal Construction Co. to begin work on West Santa Clara St. between Los Gatos Creek and Southern Pacific Co.'s track and on San Fernando St. between Delmas Ave. and Los Gatos Creek was reason for rescinding action in awarding the contract. Clerk was ordered to readvertise for bids for the pavement.

Hartford, Conn.—Widening of Church St. and construction of new street in western section of city between Farmington Ave. and Garden St., are being considered.

Naugatuck, Conn.—Bond issue of \$20,000 has been voted for highway improvements.

New Haven, Conn.—Aldermanic Committee on Streets is in favor of \$200,000 bond issue for new pavements in principal streets of city.

Gainesville, Fla.—City Council has passed ordinance providing for paving of Depot St., between W. Main and Pearl Sts. Total cost, \$12,900.

Atlanta, Ga.—Widening of West Peachtree St. is being advocated.

Hailey, Idaho.—Bond issue of \$100,000 for road purposes in county is being considered.

Alton, Ill.—Bids received for paving of alley between Third and Fourth Sts. have been rejected, and will be readvertised.

Alton, Ill.—Plans are being considered for paving and improvement of river front.

Alton, Ill.—Assistant City Engineer H. C. Swift is making surveys and preparing plans for following (paving and sewerage) streets: Paving of Liberty St. from Union to Clement St.; sewer on 7th St., from Mechanic to 6th St.; paving 7th St., from Alton to Langdon St.; paving Mechanic St.; paving of alleys from Prospect to Beacon St.; paving of Cliff St.; paving 17th St., from Liberty to Central Ave.; paving Maple St., from Grove to Euclid Pl.; paving Logan St.; approximately 3 miles of paving.

Dixon, Ill.—Question of asking citizens of Dixon to vote for bond issue to provide for paving several streets badly in need of improvement is being considered by members of City Council.

Ottawa, Ill.—Bids will be asked about Nov. 10 to 20 for paving work on west side. Work comprises 123,782 sq. yds. of vitrified brick pavement on 4-in. concrete foundation with concrete combined curb and gutter. Estimated cost, \$281,333.72. Geo. L. Farnsworth is Engr.

North Vernon, Ind.—Jennings County gravel road bonds to amount of \$6,300 have been sold to Breed, Elliott & Harrison Indianapolis, who bid par, accrued interest and premium of \$10,252.

Richmond, Ind.—Series of boulevards for Richmond has been started when County Commissioners ordered Haas and Barton roads constructed of concrete and brick under the three-mile road law. Two roads together are about four miles in length.

Creston, Ia.—Resolution has been proposed for sidewalk improvements consisting of 90,000 sq. ft. of 4-in. concrete walk and 5,000 sq. ft. of brick walk to be laid and relaid. Theo. S. DeLay is City Engineer.

Des Moines, Ia.—Paving of West Grand Ave. from 17th to 19th Sts. has been advertised.

Des Moines, Ia.—H. C. Beard of State Highway Comm. has recommended cement hard road for one of main highways leading into Shenandoah. This is first recommendation for hard roads under highway commission, but about 20

other roads are being discussed for similar action.

Des Moines, Ia.—Paving of East Sixth St. is being considered.

Salina, Kan.—Large number of new sidewalks have been ordered.

Bangor, Me.—Order has been passed authorizing paving of Central St. with wooden blocks from bridge to Harlow St.

Portland, Me.—The Maine State Highway Comm. will let contracts for road construction at once. Paul D. Sargent, chief engineer of commission, has been ordered to prepare specifications at once for letting of two big contracts. One of these will be a seven mile stretch beginning at New Hampshire line at Fryeburg and running toward Bridgton. This will be of dirt construction. Second contract to be immediately let will be for two miles beginning at end of Corcoran job at York Beach and running toward end of present cement State highway at Cape Neddick.

Haverhill, Mass.—Order has been authorized for about 950 ft. of concrete sidewalk on Salem St., Bradford district.

Swampscott, Mass.—Plans for widening, extension and relocating of Humphrey St. have been accepted by Board of Selectmen.

Flint, Mich.—Board of Supervisors has decided to join with city in building good road connecting county road with Detroit street pavement. County will pay 60 per cent. of cost and city 40 per cent. Cost of road is estimated at \$3,500.

Port Huron, Mich.—Special election may be held in St. Clair County for voting on \$500,000 bond issue to be used exclusively for building and maintaining good roads.

Hannibal, Mo.—Plans and specifications for improvement of Levering Ave. from the south line of Bird St. to the north line of Broadway have been affirmed.

South St. Joseph, Mo.—Board will advertise for resurfacing with mineral rubber paving Tenth St. from Church to Powell. Board will designate concrete for paving Belle St. from 16th to 18th, and Ohio, King Hill to Lake Ave., with mineral rubber. Grades are to be established on 18th St. and Sixth Ave.

St. Joseph, Mo.—Ordinances have been adopted for improvement of various streets.

Belmar, N. J.—At meet of Belmar Council Finance Committee recommended graveling of following streets: Ocean Ave., to F St.; Tenth Ave., from D to E Sts.; 13th Ave., from D to F Sts.

Camden, N. J.—Ordinances have been adopted for improvement of various streets.

Hackensack, N. J.—New Jersey Dept. of Pub. Roads has decided to rebuild highway from Hackensack to New York State line.

Newark, N. J.—Issuance of road bonds in sum of \$250,000 has been authorized by Board of Freeholders.

Spring Lake, N. J.—Council has passed ordinance providing for extension of Vroom Ave. from Third Ave. west to Fourth Ave.

Ventnor, N. J.—Ordinance No. 20, providing for issuing of \$25,000 worth of paving bonds for permanent improvement of all streets, has been passed.

Brooklyn, N. Y.—Plans have been made by New York State Highway Comm. to build first class modern roadway over or around Crows Nest Mountain, and thus provide suitable connection to Newburgh and north for incomplete boulevard which now extends most of way from Haverstraw to West Point.

Brooklyn, N. Y.—Authorization have been given by Board of Estimates and Apportionment at its last meeting for 45 highway and sewer undertakings in Borough of Brooklyn, estimated cost of which is \$275,000, of which total 21 preliminary authorizations, estimated cost \$153,200, and 24 final estimates, cost \$121,800. Seven authorizations, all preliminary, were given to Queens, estimated cost of which is \$35,000.

Lockport, N. Y.—Board of Supervisors has adopted resolutions forwarded by State Highway Comm. appropriating \$11,522 as county's share of improvement of Market St. and Lake Ave. from Union St. to new brick road leading from Niagara road to Wright's Corners. Road will cost \$80,000 and will be brick and stone. State's share is \$16,450, county's \$11,522, and city's \$4,935, with additional charge of \$47,000 against city for extra width.

Poughkeepsie, N. Y.—Extension of Foebus and May Sts. are planned.

Saranac Lake, N. Y.—Contracts for 15 miles of State and County roads in Franklin County will probably be let

late this month. One of pieces of road is designated county trunk line between Saranac Lake and Works Corners.

Syracuse, N. Y.—Bids for paving North State St. from Catawba St. to Lodi St. have been received by Board of Contract and Supply. Those for uniform materials were as follows: Stone curbing (10 years' guaranty on asphalt)—G. B. Dickinson, sandstone block, \$44.180; asphalt, \$29,289.60. John Young, sandstone block, \$45,914.30; brick, \$32,139.30; asphalt, \$29,117.50; macadam, \$25,409.80. Warner-Quinlan Asphalt Co., asphalt, \$28,563. F. J. Baker, sandstone block, \$44,565.50; brick, \$32,385.30; asphalt, \$29,575.10; macadam, \$25,125.50. Combination Curb (5 years' guaranty on asphalt)—G. B. Dickinson, sandstone block, \$42,005; brick, \$30,139; asphalt, \$27,357.60. F. J. Baker, sandstone block, \$42,790.80; brick, \$31,177.30; asphalt, \$28,043.10; macadam, \$24,250.50. Warner-Quinlan, sandstone block, \$42,070; brick, \$30,304; asphalt, \$26,667; macadam, \$23,580. Combination Curb (10 years' guaranty on asphalt)—G. B. Dickinson, sandstone block, \$42,005; asphalt, \$27,798.60.

Yorktown, N. Y.—Taxpayers will vote on improvement of Mill St. E. L. Dunning is Town Clerk.

Charlotte, N. C.—Bond issue of \$100,000, of which \$50,000 for financing paving of various streets, is being recommended.

Bowling Green, O.—Committee has reported favorably on proposed macadamizing of Manville Ave., from Wooster to First St.

Columbus, O.—Widening of North High St. is being considered.

Lima, O.—Resolution has been adopted for improvement of Tanner Ave., between Second St. and Third St.

Toledo, O.—Ordinance has been passed for repaving of Ontario St., between Madison and Jefferson Aves.

Youngstown, O.—Bids will be received at 2 p. m., Nov. 17, by D. J. Jones, City Aud., for purchase of street improvement bonds.

Ashland, Ore.—More than a dozen bids on the \$500,000 Jackson County highway bond issue have been opened by County Court. Highest bid was submitted by H. B. Wood, of Minneapolis. Highway bond issue is for constructing main trunk road from California line south of Ashland to Josephine County line, 54 miles long.

Beaver, Pa.—Council has decided to pave Fourth St.

Doylestown, Pa.—Petition signed by large number of residents of East Ashland St. has been presented, asking that street be widened to its full 50 ft. from Main to Pine St.

Harrisburg, Pa.—Ordinances have been adopted for improvement of various streets.

Hazleton, Pa.—Ordinance has been adopted providing for paving of Mine St. with vitrified brick or other approved paving material.

Meadville, Pa.—City Engr. B. F. Miller has plans before him for coming year which represent greatest advance in this work ever undertaken by City of Meadville. On street paving alone, at lease \$180,000 will be expended.

Pittsburgh, Pa.—Two resolutions favoring proposed amendment to State constitution allowing \$50,000,000 good roads bond issue, have been adopted by two Boards of Trade.

Reading, Pa.—Meeting of voters will be held for discussing \$50,000,000 bond issue for road improvements in Berks County.

Williamsport, Pa.—Bond issue for improvement of roads in South Williamsport and vicinity will be voted on in November.

Wilkes-Barre, Pa.—Bonds amounting to \$58,500 will be issued by Board of Commissioners of Newport Township to create fund to be used for paving of certain streets with brick and expenses incident thereto.

York, Pa.—Bids have been asked by city for paving of W. Market St. from West St. to Belvidere Ave. with vitrified brick and for extension of Vine St. sewer.

Lincoln, R. I.—Improvement of Livingstone St., Prospect Hill, is being considered.

Pawtucket, R. I.—Appropriation of \$2,900 has been made for improving Beachwood Ave., from Brewster St. to Rhode Island Ave.

Charleston, S. C.—Paving of Meeting St. has been authorized.

Spartanburg, S. C.—Bond issue of \$100,000 for street paving has been awarded to Bank of Spartanburg.

Johnson City, Tenn.—Matter of better roads is receiving attention of citizens of Washington County. County will be asked in near future to vote \$415,000 in bonds, proceeds of which will be used in road-building.

Arlington, Tex.—Citizens have subscribed money to macadamize two principal business streets of this city.

Bishop, Tex.—The good roads bond issue of Bishop Independent Road District, amounting to \$100,000, has been sold to F. Z. Bishop and work on construction of 40 miles of macadam roads will be commenced at once under direction of John T. Bartlett.

Corpus Christi, Tex.—City Council has passed ordinance calling for paving of Chaparral St.

Dallas, Tex.—Following bids have been received for street work: For paving of Thomas Ave., from Haskell to Carroll, including curbs, gutters, storm sewers and paving proper, Roach-Manigan Paving Co., 4-in. wood block, \$17,892 or \$18,111.47, according to whether work is without maintenance or with 5-year maintenance; Creosoted Wood Block Paving Co., 4-in. blocks, \$17,888.47 and \$18,107.85; General Construction Co., 4-in. blocks, \$17,753.37 or \$17,972.75; Texas Bitulithic Co., \$12,601.25 or \$12,952.26; Roach-Manigan Paving Co., for Bermudez asphalt, \$11,135.13 or \$11,354.51; Standard Engineering & Construction Co., for Uvalde rock asphalt, \$10,907.55 or \$10,995.30; Southern Westrumite Co., for westrumite \$11,467.78 or \$11,555.53; General Construction Co., for vibrolithic \$10,525.20 or \$10,744.58.

Forney, Tex.—Effort is to be put forth at once to inaugurate campaign for bond issue for good roads.

Fort Worth, Tex.—Widening of South Main St. has been petitioned for.

Galveston, Tex.—Bond election will be called for voting on issue of \$150,000 for street improvements and \$25,000 for filling streets and alleys in western part of city.

Kingsville, Tex.—Sum of \$34,000 has been voted for street improvements.

Livingston, Tex.—Polk County road district No. 2 bonds have been approved to amount of \$40,000.

Mexia, Tex.—Property owners of this precinct have voted issuance of road bonds to amount of \$150,000 over a year ago, but on account of condition of bond market bonds have not been sold. Complete survey of proposed roads have been made, and contract for work will be let at once.

Mineral Wells, Tex.—Commissioners' Court of Palo Pinto has ordered election on \$200,000 good roads bond issue for county.

Rosenberg, Tex.—Bond issue of \$12,500 has been voted for street improvements.

San Antonio, Tex.—Property owners on Commerce St., Alamo St. and Alamo Plaza have determined to petition City Council for assistance in widening of North Alamo St. from point opposite Blum St. to intersection of Commerce St.

Uvalde, Tex.—Election will be held Nov. 15 for voting on \$20,000 bond issue for street improvements.

Weatherford, Tex.—Construction of 3-mile road to connect Aledo with road being built from Aledo to Iona is being planned.

Ogden, Utah.—City Engr. H. J. Craven has submitted bids for concrete paving of Lincoln Ave., between 26th and 30th Sts., and has recommended that contract be awarded to A. A. Clark, lowest bidder without a guarantee. Two lowest bidders were A. A. Clark and P. J. Moran, both of Salt Lake, as follows: A. A. Clark, no guarantee, \$14,750; guarantee, \$19,000; P. J. Moran no guarantee, \$17,584.94; guarantee, \$18,417.85. Contracts have not yet been awarded.

Essex Junction, Vt.—Village has voted that village borrow \$500 for improvement of Main, Maple, Pearl, Park and Lincoln Sts. at their intersection at the common.

Portsmouth, Va.—Paving of High St. through to Ninth Ave., Cottage Pl., has been authorized.

Chehalis, Wash.—Further extensive paving in 1914 is contemplated.

Everett, Wash.—To build system of permanent trunk roads throughout Snohomish County and to pay for same by means of a bond issue of \$1,500,000 has been recommended.

Walla Walla, Wash.—Commercial Club's Good Roads Committee will go over situation relative to campaign now in progress for construction of 125 miles of hard surfaced roads in this county. Petitions are now in circulation among voters asking County Comrs. to call election on a \$1,250,000 bond issue, and they are being rapidly signed.

Janesville, Wis.—More than \$100,000 will be available for road building in Rock County in 1914, having awarded aid in sum of \$34,889.85 in consequence of that amount being appropriated by the towns, and same amount by county.

Madison, Wis.—Over \$4,000,000 worth of new roads, representing about 1,400 miles of highways, will be built in Wisconsin in 1914, according to State Highway Commission. Commission has announced minimum sums available for each county of State as follows: Adams, \$3,240; Ashland, \$7,560; Barron, \$9,720; Bayfield, \$6,840; Brown, \$23,760; Buffalo, \$8,040; Burnett, \$2,640; Calumet, \$11,040; Chippewa, \$12,720; Clarke, \$12,600; Columbia, \$19,700; Crawford, \$6,120; Dane, \$57,720; Dodge, \$34,200; Door, \$7,200; Douglas, \$22,080; Dunn, \$10,080; Eau Claire, \$12,240; Florence, \$1,800; Fond du Lac, \$29,640; Forest, \$5,280; Grant, \$23,160; Green, \$19,320; Green Lake, \$9,480; Iowa, \$16,560; Iron, \$3,240; Jackson, \$6,960; Jefferson, \$23,280; Juneau, \$7,440; Kenosha, \$19,920; Kewaunee, \$8,640; La Crosse, \$17,160; Lafayette, \$17,280; Langlade, \$8,160; Lincoln, \$7,920; Manitowoc, \$23,760; Marathon, \$23,240; Marinette, \$11,640; Marquette, \$920; Milwaukee, \$231,720; Monroe, \$12,000; Oconto, \$9,240; Oneida, \$5,880; Outagamie, \$24,120; Ozaukee, \$9,840; Pepin, \$2,880; Pierce, \$9,240; Polk, \$9,120; Portage, \$10,080; Price, \$5,280; Racine, \$33,000; Richland, \$10,060; Rock, \$34,680; Rusk, \$4,920; St. Croix, \$12,000; Sauk, \$18,720; Sawyer, \$4,320; Shawano, \$11,880; Sheboygan, \$26,640; Taylor, \$5,640; Trempealeau, \$10,440; Vernon, \$12,240; Vilas, \$3,720; Walworth, \$23,760; Washington, \$15,000; Waukesha, \$22,560; Waupaca, \$13,680; Waushara, \$7,920; Winnebago, \$29,520; Wood, \$12,480.

London, Ont., Can.—Proposals are now in hand for starting the laying of 2½ miles of asphalt paving next season. Several sections of brick paving will also be laid. W. N. Ashplant is City Engineer. Willis Chipman of Toronto is Consulting Engineer.

CONTRACTS AWARDED.

Little Rock, Ark.—Contract has been awarded to Shelby & Bateman, Little Rock, Ark., for 20,000 sq. yds. of dollarway pavement.

Eagle Rock, Cal.—To Peter L. Ferry, of Glendale, contract for macadamizing and constructing curb, gutters, sidewalks and culverts for one and one-half miles in portion of Colorado Blvd. at \$33,712.

Fresno, Cal.—By County Supervisors, contract for construction of 4.41 miles of county road known as continuation of Sand Creek Road, to R. F. Ball, Fresno, Cal., at \$9,499.

Los Angeles, Cal.—For improving Sunset Blvd., from Main St. to Marion Ave. to Barber Asphalt Paving Co. at a total of \$150,386, or 26.4 cts. for asphalt, 37.5 for brick, 17.9 cts. for bitulithic and 50.4 cts. for granite block pavement.

Marysville, Cal.—City Council has awarded contract for improvement of D St. between Eighth and Ninth Sts., adjacent to Ellis Lake, to Lillian Carstenbrock, whose bid was 34 cts. per cubic yard for sand and 40 cts. for slickens.

Redwood City, Cal.—Board of Supervisors has awarded to Clark and Henery contract for paving 2-mile stretch of road through city of San Mateo along route of State highway, which is first work to be done under \$1,250,000 bond issue for good roads.

Hartford, Conn.—By State Highway Comr. Chas. J. Bennett, contract for construction of section of 4,800 ft. of gravel road in town of Voluntown, to Goodman & Trumbull Co. of Litchfield.

Stamford, Conn.—Selectmen have signed contract with J. L. Di Michael of Middletown, to construct about 8,000 ft. gravel road on extension of State road near North Stamford.

Chrisman, Ill.—To Chrisman Construction Co., for paving various streets at \$28,500.

Edwardsville, Ill.—Street and Alley Committee of City Council has awarded to Mat Serrier contract to construct granitoid sidewalks on Garden St., between Monroe and Johnson.

Sterling, Ill.—Contract for paving of post-office yard, driveways, etc., has been let to O'Rourke & Ridge. Contract price was \$2,840.

Fort Wayne, Ind.—County Comrs. have let contract for Collier stone road, in Monroe Twp., to the Erie Stone Co., on bid of \$11,779. Other bidders were Dean

Ellison, \$11,825, and Adama Ehling, \$11,849. There was difference of but \$70 between highest bidder and lowest bidder, which shows clearly how close figuring was. Surveyor's estimate for road was \$13,260.95. Strip to be stoned is 13,397 ft. long, and work on ditching will commence shortly.

Hartford City, Ind.—To C. F. Kegerreis of this county, contract for James E. Holdercroft road on Blackford-Delaware county line at joint session of two county boards. His bid was \$24,259, against \$25,447 and \$25,500 bid by A. Clamme and N. W. Jackson, respectively. Work is to be completed by Nov. 1, 1914. William Harley was made Engr. Road is five miles long and estimated cost is \$27,751.67.

Monticello, Ind.—By Commissioners of White County, contract for construction of Wm. Krapff Road to Edmund B. Steeley at \$22,500.

Hutchinson, Kan.—Contract to improve North Clay Twp. road, connecting Medora and Buhler roads, has been awarded by County Comrs. to Wheeler & Keleher. There are 3½ miles to be improved.

Baltimore, Md.—The Austin Humphries Const. Co. is lowest bidder on repaving of Light St. from Cromwell to Ferry Bar, which is to be done for city by State Roads Comm., price being \$18,900 for bituminous concrete. Commission is about to let contract for construction of section of State road from Seat Pleasant to District of Columbia line in Prince George's County. Road is to be of concrete and lowest bidders were Harper & Voigt of Washington, who offered to do the work for \$1.05 a sq. yd., which is on basis of about \$8,000 a mile.

Flint, Mich.—When completed new South Saginaw St. bridge over Gilkey Creek will be paved with patent southern yellow pine lug blocks. Common Council has adopted recommendation of City Engineer Shoecraft providing for order to be placed with Jennison Wright Co., of Toledo, for 180 sq. yds. of the block.

St. Louis, Mo.—For paving with brick Euclid St. by Board Public Improvements to Frank A. Stiers, at \$11,616.

South Omaha, Neb.—Contract has been awarded to King, Rohebaugh Co., of Omaha, for construction of 3,200 sq. yds. of dollarway pavement.

Camden, N. J.—Repaving of Haddon Ave., from Euclid Ave. to City Line, has been authorized. Contract for laying Belgian block on concrete foundation has been given to Aaron Ward, whose bid was \$2.67 per sq. yd. In addition to this committee gave Mr. Ward contract for repaving Delaware Ave., from Penn to Vine St. with Belgian block for \$2.83 per sq. yd.

Elizabeth, N. J.—Contract for improvement of North Ave., from Cranford to Westfield, has been awarded to Weldon Contr. Co. on basis of use of amiesite at \$39,749.49; also for improvement of South Ave., from Martine Ave. to Summit Ave., in Boro. of Fanwood, to C. H. Winans Co. on basis of the use of amiesite, at \$15,285.17.

Lodi, N. J.—Contract for macadamizing Garibaldi Ave. has been awarded to lowest bidder. Contractor Van Roden at \$4,337.50.

New Brunswick, N. J.—Two important contracts have been awarded by Board of Freeholders, when Abraham Jelin, of this city, was given contract for widening sidewalks of Albany St. bridge at his bid of \$14,177. T. H. Riddle, also of this city, was awarded contract for paving second section of Roosevelt-Woodbridge Rd., his bid for work, \$39,399.24, being lowest received. Type of construction accepted is known in plans as Foundation M and Surface J. Award is subject to approval of State Road Commissioner.

Perth Amboy, N. J.—Contract has been awarded to Thos. H. Riddle, New Brunswick, for 26,432 sq. yds. of dollarway pavement.

Brooklyn, N. Y.—Contracts have been awarded for highway and sewer jobs in Queens, successful low bids aggregating \$19,485.31. Contract for paving with sheet asphalt George St., Ridgewood, from Wyckoff Ave., was awarded to Uvalde Contracting Co., at \$6,370. Contract for grading the sidewalk spaces, curbing and laying crosswalks and sidewalks in Freedom Ave., from Colby St. to Kimball Ave., Woodhaven, was let to Angelo Tania at \$7,162.50.

Schenectady, N. Y.—Contract has been awarded as follows by Board of Contract and Supply. P. Camillo, laying 6,000 sq. ft. of cement sidewalk on Front St., \$6,520.68.

Schenectady, N. Y.—By Board of Contract and Supply contract for the construction of 6,000 sq. ft. of cement sidewalk in Front St., where walks were torn up to lay the intercepting sewer, to P. Camillo for \$652.68. Items included 6,000 sq. ft. surface at \$.02½; 110 sq. ft. sub-base at \$.02; 570 sq. ft. concrete driveways at \$.12½, and 200 lin. ft. steel bars at \$.04. Only other bidder was Bruno Tempoli.

Warsaw, N. Y.—At recent letting of State roads, contract for Warsaw-Gainesville road was awarded to Shaughnessy Const. Co. of Albany for \$166,452.55.

Lima, O.—Contract for paving of Franklin Ave. has been awarded to Henry Enck, at \$7,410.

Portland, Ore.—Contract for paving the East Sherman St. district in Groveland Park with concrete pavement has been awarded to Giebisch & Joblin by Council on recommendation of Commissioner Dieck, consideration being \$20,116.

Chester, Pa.—Contracts have been awarded for paving of number of streets, bidders being: John Hanna & Son, paving Church St. with Belgian block, block to be furnished by city, \$1.65 per sq. yd.; 20-in. crossing stones and resetting curb, 80 cts. per lin. ft. Continental Public Works Co., paving Sixth St., from Highland Ave. west to City Line, with bitulithic, \$1.88 per sq. yd.; vitrified brick gutter, \$2.80 per sq. yd.; 20-in. crossing stones, 28 cts. per sq. yd.; resetting curb, 18 cts. per lin. ft.; asphalt, \$2 per sq. yd.; paving Union St., Concord Ave. to Franklin St., \$2.16 per sq. yd.; Highland Terrace, 15th St. to Rural Ave., \$1.91 per sq. yd.; Ninth St., Highland Ave. to City Line, \$1.88; Esrey St., 14th to 15th St., \$1.91; Church St., \$3.15; 11th St., from Parker to Kerlin St., \$1.86; 12th St., Parker to Kerlin St., \$1.99. With exception of Church St. and Highland Terrace, contracts were awarded to Continental Co.; Church St. was awarded to John Hanna & Son, no action being taken with regards to Highland Terrace.

Harrisburg, Pa.—At State Highway Department bids were opened for construction of State-aid road 4,452 ft. long in Bethel Township, Lebanon County. Length of the road is less than a mile, but lowest bid was \$15,437 from Ambler Davis Co., Philadelphia. Highest bid was that of B. M. Zahner, Catawissa, \$28,651.36.

Dallas, Tex.—Contracts have been awarded by City Commissioners for paving of seven streets of city. Total amount involved, including part to be paid by property owners and that to be paid by city or railway companies, is about \$250,000. Three of the streets are to have creosoted wooden blocks on concrete foundation, two will have bitulithic on concrete foundation, two will have bituminous concrete. Eighth St., for which bids were invited, will be re-advertised. By recommendation of Street Commissioner Scott and others of Board of Commissioners five of the streets, with estimated cost of over \$200,000, will be done by Texas Bitulithic Co. Two will be done by the Roach-Manigan Co. at estimated cost of about \$50,000.

Midland, Tex.—Baker Manufacturing Co., Weatherford, Tex., has purchased the Midland County \$50,000 good roads bond issue and contract has been let to West Texas Bridge & Construction Co., Weatherford, for construction of 44 miles of macadam roads. Work will begin at once and must be completed inside of six months.

Ogden, Utah.—A. A. Clark, of Salt Lake has been awarded contract for paving Lincoln Ave. from 26th to 30th St. with concrete. His bid was \$14,750.

Burlington, Wash.—For grading and paving with Dolarway pavement to Cascade Construction Co., Mutual Life Bldg., Seattle, at about \$10,472.

Seattle, Wash.—For grading 42d Ave. South to T. H. Ryan at \$4,466.77.

Washington.—Following contracts have been awarded for improving sections of State highways: Olympic Highway, Duckabush South, awarded to R. H. Hill, Port Townsend, as follows: 67,248 cu. yds. common excav., including haul of 400 ft., 32½ cts.; 2,492 cu. yds. loose rock excav., 50 cts.; 2,044 cu. yds. solid rock excav., 90 cts.; common borrow, per cu. yd., 41 cts.; loose rock borrow, per cu. yd., 60 cts.; overhaul on any of above materials per each 100 ft., 1½ cts.; 46.1 acres clearing, \$75; 12.8 acres grubbing, \$110; 780 stumps over 6 ins. and under 18 ins., \$1.55; 446 stumps over 18 ins., \$2.67; 24,585 lin. ft. standard pole guard rail, 13½ cts.; rip rap, loose, per cu. yd., \$1; rip rap, hand placed, per cu.

yd., \$1.85; slope wall per cu. yd., \$2.15; rubble masonry, per cu. yd., \$3.90; concrete, first class, per cu. yd., \$8.75; concrete, second class, per cu. yd., \$8; steel I-beams and structural shapes in place, per lb., 6 cts.; steel reinforcing bars, per lb., 5 cts.; 2,665 lbs. c. i. and spikes, 7½ cts.; expanded metal, per sq. ft., 10 cts.; pipe rail in place, per lin. ft., \$1.10; 124.8 M. ft. timber and plank, in place, not including spikes or bolts, \$26; fir piling driven, above cut off, per lin. ft., 35 cts.; below cut off, per lin. ft., 40 cts.; cedar piling driven above cut off, per lin. ft., 40 cts.; 1,188 lin. ft. cedar piling driven, below cut off, 45 cts.; 3,396 sq. yds. timber cribbing in place, \$1.32; cobble gutters, per sq. yd., 72 cts.; concrete gutters, per sq. yd., \$1.45; porous tile drains, per lin. ft.: 4-in., 11 cts.; 6-in., 15 cts.; 8-in., 23 cts.; corrugated i. p., per lin. ft., 8-in., 85 cts.; 12-in., \$1.20; 18-in., \$1.75; 24-in., \$3.75; concrete iron pipe, per lin. ft.: 8-in., 90 cts.; 12-in., \$1.30; 18-in., \$2; 24-in., \$2.75; 36-in., \$3.80; 48-in., \$4.75; 60-in., \$6.10; 72-in., \$8.50; 140 lin. ft. log culverts, 24x24-in., \$1.25; 993 lin. ft. 36x36-in., \$1.45; 574 lin. ft. 48x48-in., \$2; 54 x60-in., per lin. ft., \$2.50; 72x72-in., per lin. ft., \$3.20; vitr. tile pipe, per lin. ft.: 8-in., 55 cts.; 12-in., 95 cts.; 18-in., \$1.95; 24-in., \$3.25; 36-in., \$7.50; 48-in., \$20; 60-in., \$35; Telford base, per cu. yd., \$7.50; side surfacing, per lin. ft., 25 cts.; total based on concrete pipe culverts, \$50,768; also bid a total of \$46,751 based on log culverts. Sunset Highway, Lake Keechelus, Kittitas County—Awarded to Quigg Constr. Co., Wenatchee, as follows: 4,128 cu. yds. common excav. inc. haul of 400 ft., 60 cts.; 11,118 cu. yds. loose rock, 30 cts.; 27,042 cu. yds. solid rock, 90 cts.; common borrow, per cu. yd., 65 cts.; loose rock, per cu. yd., 65 cts.; 14,775 cu. yds. overhaul on any of said materials, per each 100 ft., 1 ct.; 18.5 acres clearing, \$125; 15.3 acres grubbing, \$20; 819 stumps over 8 ins. and under 18 ins., 50 cts.; 263 over 18 ins. and under 30 ins., 60 cts.; 102 over 30 ins., \$1; 3,600 lin. ft. standard pole guard rails, 10 cts.; rip rap loose, per lin. ft., 6 cts.; 300 lin. ft. rip rap, hand placed, \$2.50; slope wall, per cu. yd., \$2.50; rubble masonry, per cu. yd., \$2.50; 54.57 cu. yd. concrete, first class, \$12; 206.36 second class, \$10.50; steel I-beams and structural shapes in place, per lb., 5 cts.; 397.5 lbs. steel reinforcing bars, in place, 5 cts.; 1,320 lbs. c. i. and spikes in place, 7 cts.; expanded metal per sq. ft., 7 cts.; pipe rail in place, per lin. ft., 5 cts.; 22.8 M. ft. timber and tank, not including spikes or bolts, \$40; fir piling driven above cut-off, per lin. ft., 10 cts.; below cut off, 15 cts.; cedar piling driven above cut off, per lin. ft., 18 cts.; below cut off, 25 cts.; 1,872 sq. yd. timber cribbing 60 cts.; cobble gutters, per sq. yd., 10 cts.; concrete gutters, per sq. yd., 10 cts.; porous tile drains: 4-in. diam., 7 cts.; 6-in., 12 cts., and 8-in., 15 cts. per lin. ft.; corrugated iron pipe: 8-in., 50 cts.; 12-in., 75 cts.; 18-in., 80 cts., and 24-in., \$1 per lin. ft.; concrete pipe: 8-in., 60 cts.; 12-in., \$1.20; 18-in., \$1.80, and 24-in., \$2.25 per lin. ft.; 348 lin. ft. log culverts, 30x36-in., \$2; 138 lin. ft. 48x48-in., \$2.50; 54x60-in., \$3; 72x72-in., \$3.50 per lin. ft.; vitr. tile pipe: 8-in., \$1; 12-in., \$1.50; 18-in., \$2, and 24-in., \$2.50 per lin. ft.; Telford base, per cu. yd., \$2.50; side surfacing, per lin. ft., 5 cts.; total based on concrete box culverts, \$39,949 (awarded contract); it also bid \$37,926, based on log culverts. Pacific Highway Waterfront Road, Whatcom and Skagit Counties—Lowest bidder Quigg Constr. Co., Wenatchee: 2,280 cu. yds. common excav., including haul of 400 ft., 45 cts.; 8,432 cu. yds. loose rock excav., 27 cts.; 33,981 cu. yds. solid rock excav., \$1; common and loose rock borrow, per cu. yd., 60 cts.; overhaul on any of these materials, per each 100 ft., 1 ct.; 19.15 acres clearing, \$80; 7.45 acres grubbing, \$98; 621 stumps over 12 ins. and under 24 ins., 5 cts.; 253 over 24 ins. and under 36 ins., 10 cts.; 152 36-in., 15 cts.; 9,971 lin. ft. standard pole guard rail, 10 cts.; rip rap loose, per cu. yd., 2 cts.; rip rap hand placed, per cu. yd., 50 cts.; slope wall per cu. yd., \$2.50; rubble masonry per cu. yd., \$2.75; concrete, first class, per cu. yd., \$12; concrete, second class, per cu. yd., \$10.50; steel I-beams and structural shapes, in place, per lb., 5 cts.; steel reinforcing bars, per lb., 5 cts.; 3,387 lbs. c. i. and spikes, 7 cts.; expanded metal in place, per sq. ft., 7 cts.; pipe rail, per lin. ft., 5 cts.; 395.9 M. ft. timber and plank, not including spikes or bolts, \$20; fir piling driven above cut off, per lin. ft., 15 cts.; fir piling driven below cut off, per lin. ft., 20 cts.; cedar piling driven above cut off, per lin. ft., 18 cts.; cedar driven below cut off, per lin. ft., 25 cts.; 702 sq. yds. timber cribbing, \$1; cobble gutters per sq. yd., 10

cts.; concrete gutters per sq. yd., 10 cts.; porous tile drains, per lin. ft.: 4-in., 7 cts.; 6-in., 10 cts.; 8-in., 15 cts.; corrugated iron pipe, per lin. ft.: 8-in., 50 cts.; 12-in., 75 cts.; 18-in., 80 cts.; 24-in., \$1 per lin. ft.; concrete pipe, per lin. ft.: 8-in., 60 cts.; 12-in., \$1.20; 18-in., \$1.80; 24-in., \$2.25; log culverts, per lin. ft.: 36x36-in., \$2; 42 lin. ft. 42x48-in., \$2.50; 54x60-in., \$3; 72x72-in., \$3.50; vitr. tile pipe, 8-in., diam., \$1; 12-in., \$1.50; 18-in., \$2; 24-in., \$2.50; Telford base, per cu. yd., \$2.50; side surfacing, per lin. ft., 5 cts.; total, \$50,382. Contracts for other roads have been awarded as follows: Marysville North, to Graff & Bancroft, of Everett, at \$14,297; Everett to Marysville, to F. Kerr Follitt, Everett, at \$10,500; Alder to Elbe, Torger Peterson, Tacoma, at \$20,550; Wood's Gulch Fill to F. Kerr Follitt, Everett, at \$4,000.

Sheboygan, Wis.—Contract for laying of cedar blocks on New Jersey Ave. at \$1.72 has been let to Franz Radloff.

SEWERAGE

Clanton, Ala.—Bond issue of \$35,000 for sewerage and waterworks will shortly be voted on.

Douglas, Ariz.—It has been decided to extend city sewer system on alley between 13th and 14th Sts. east of A Ave. to Dolores Ave. Sewer extensions between Fourth and Fifth and Fifth and Sixth Sts. has been tabled.

Red Bank, Cal.—Question of laying sewers in Catherine, Herbert, River, Bank, Leonard and Earl Sts. and in Locust and Leighton Aves. in the western part of Red Bank are being considered.

Red Bluff, Cal.—Election will be held for voting on \$8,000 for extension of sewer system.

Sanger, Cal.—City Engineer has prepared plans for construction of sewer system, to cost \$32,430.

San Francisco, Cal.—At request of association, Board of Supervisors has appropriated money for construction of sewer in San Bruno Ave., from Cortland Ave. to Waterloo St., and in Waterloo St., from San Bruno Ave. to Barneveld Ave. This sewer will be addition to Cortland Ave. outlet sewer and will serve residents of Bernal Heights section.

Atlanta, Ga.—Sewer from Ponce de Leon Ave. across park is to be built at once.

Emmett, Idaho.—Plans have been approved for construction of sewer system, to cost about \$18,000.

Hutchinson, Kan.—City Comn. has engaged H. E. Black, a consulting sanitary engineer of Kansas City, to assist board in establishment of new sewage disposal system soon to be installed in Hutchinson.

Salina, Kan.—A sewer line east from Ash St. bridge to bend in river east of Ohio Ave. has been decided upon by Council and it was voted to instruct city engineer to secure levels and secure estimates as to carrying of sewer line farther on across Thomas White farm east of town.

Louisville, Ky.—Bids are being received for construction of various sewers.

Gloucester, Mass.—It has been voted to replace the 2-in. surface pipe on Wheeler St. with a 6-in. deep laid pipe.

Elizabeth, N. J.—Ordinance has been adopted for construction of sewer in Fanny St. J. F. Kenah is City Clk.

Irvington, N. J.—Ordinances have been adopted for construction of various sewers.

Orange, N. J.—Ordinance authorizing Orange to unite with East Orange and Montclair in erection of joint disposal works has been passed by Orange Common Council.

Perth Amboy, N. J.—Ordinances to place 12-in. sewer in Laurie St., from Cornell to Groom St., and to establish grade on Buckingham Ave., have been passed upon second, third and final readings.

Binghamton, N. Y.—Ordinance has been adopted for construction of sewer in Rush Ave. F. M. Hopkins is City Clerk.

Brooklyn, N. Y.—Authorizations have been given by Board of Estimate and Apportionment for 45 sewer and highway undertakings in Borough of Brooklyn.

Hamilton, O.—Resolution has been adopted authorizing issuing of bonds in sum of \$4,586.01 for improvement of Cleveland Ave. from Millville to Webster Ave. and Wayne Ave. from C to B Sts. by constructing sanitary sewers and house connections herein.

Toledo, O.—Ordinance has been passed for construction of local sewer No. 1183.

Youngstown, O.—Bids will be received at 2 p. m., Nov. 17 by D. J. Jones, City Aud., for purchase of sewer bonds.

Beaver Falls, Pa.—New City Council of Beaver Falls will take up sewage disposal proposition with State Dept. of Health and ask for reconsideration of its refusal to approve plans for alternate disposal plant.

Chester, Pa.—Ordinance has been passed providing for construction of sewers on Engle St., from Front to the Delaware River, and on Ninth St., from West city line eastward about 400 ft. Also ordinance providing for construction of sewer on Fourth St., from Hinkson St. to Melrose Ave., Front St., from Market to Welsh and on Edgmont Ave., from Front to Second, passed finally.

Greenville, Pa.—At election in November citizens will vote on proposition to issue bonds for \$40,000 for construction of sewage disposal plant.

Hanover, Pa.—Ordinance has been passed providing a method of construction of complete sewerage system.

Meadville, Pa.—Plans are being made for considerable amount of work to be done in installation of storm and sanitary sewers.

York, Pa.—Bids have been asked for extension of Vine St. sewer.

Galveston, Tex.—Bond election will be called for voting on issue of \$150,000 for an increased sewer and water service extension.

Houston, Tex.—City Engineer has prepared plans for construction of sewers in Loralne St., to cost \$8,500, and in Gano and Terry Sts., to cost \$13,941.

Kingsville, Tex.—Sum of \$52,000 has been voted for installation of sewer system.

Uvalde, Tex.—City Council has called election of property owners to vote Nov. 15 on issuance of bonds to amount of \$35,000 for sewerage system and to amount of \$20,000 for street improvements.

Norfolk, Va.—Bids for extending concrete drain through Stockley gardens from Blow St. to Hague have been opened and referred to City Engineer Brooke by Board of Control. Bids were L. Lawson, \$8.50 per lin. ft.; F. J. McGuire, \$9.40; Richardson Construction Co., \$17.98.

Merrill, Wis.—City will construct new main sewer, to cost \$40,000. Peter Odegard is City Engineer.

Superior, Wis.—City Council has passed ordinance authorizing issue of \$1,700,000 general sewer bonds.

London, Ont., Can.—Citizens have authorized issue of debentures in sum of \$400,000 for Slocum water drainage construction, and \$25,000 for length of reinforced concrete faced river embankment. Plans for proposals are being prepared. The storm water proposals will likely be spread over 4 years with annual expenditures in vicinity of \$100,000. W. N. Ashplant is City Engineer. Willis Chipman, of Toronto, is Consulting Engineer.

CONTRACTS AWARDED.

Miami, Fla.—For construction of sewer on Ave. G, to Adolph Freedlund, at \$1,387.30.

De Kalb, Ill.—For construction of new sewer system, to Harry Rees, Quincy, Ill., at \$116,153. Other bids were: Barnes & Co., \$115,520; Vito Graziano, \$118,508; Harsing & Co., \$119,679.

Council Bluffs, Ia.—For construction of sewer system in West Council Bluffs, to E. A. Wickham & Co., Council Bluffs, at \$188,096.

DeWitt, Ia.—The DeWitt City Council has received bids for building of the sewer. Twelve bids were received on main sewer and 13 on outlet, septic tank and filter beds. Sewer bids ranged from \$29,376.90 to \$37,429. Contract was let to Blackhawk Const. Co. of Waterloo at figures first mentioned. Contract for building septic tank, etc., was let to Dearborn Const. Co. of Waterloo, the bid being \$7,226.01.

Dubuque, Ia.—The storm water sewer from alley east of Alpine St. to Alta Vista St., to O'Farrell Cont. Co., as following bid: 12-in. tile pipe per lin. ft., 95 cts.; 15-in. tile pipe per lin. ft., \$1.10; 18-in. iron pipe per lin. ft., \$1.20; manholes, each, \$30; catch basins, each, \$30.

Covington, Ky.—To Vastine & Griffith, contractors, contract to finish the Willow Run sewer.

Flint, Mich.—Street Committee, Sewer Committee and City Engineer have reported to Common Council on tabulation of bids received for manhole castings and catch basin castings to be used in sewer and pavement construction work.

Report, which was adopted by Council, recommended that contract for castings be awarded to United States Brass and Iron Foundry Co. of this city on its bid of Oct. 18. Prices made to city by local firm are as follows: Standard manholes, weight 350 lbs., \$5.50 each; small catch basins, weight 285 lbs., \$4.99 each; large catch basins, weight 425 lbs., \$7.25 each. Other bidders on the castings were the Stuart Foundry Co. of Detroit, Meyer Foundry Co. and the South Bend Foundry Co., both of South Bend, Ind., and the Gilderman Foundry Co. of Syracuse, Ind.

Newark, N. J.—Contract for part of section No. 6 of the Passaic trunk sewer has been awarded to Ryan & Riley, of Baltimore, by Passaic Valley Sewerage Commission. Awards on parts of two other sections have been held up to enable commission to examine bids further. The Ryan & Riley bid was \$200,472. Section No. 6 is in Hamburg Pl. from a point near Ave. L to Jabez and Berlin Sts. Bids which were held up were on Sections No. 8, known as open trench section in the northern part of city, and section No. 19, in Garfield. Peerless Const. Co. of Brooklyn was low on two sections held up, with bids of \$116,828 for No. 8, and \$80,229 on Garfield section.

Perth Amboy, N. J.—Contract for placing sewer in Convery Place has been awarded to Christian Petersen at rate of \$1.04 a ft. for 15-in. line, 47 cts. a ft. for 6-in. line and \$35 for each manhole. Other bids were as follows: P. J. Monaghan, \$1.25 for the 15-in. sewer, 55 cts. for the 6-in. sewer and \$33 for each manhole; Carl Poulsen, \$1.10 for the 15-in. line, 58 cts. for the 6-in. pipe and \$31 for each manhole; Liddle & Pfeiffer, \$1.18 for the 15-in. line, 60 cts. for the 6-in. pipe and \$32 for each manhole.

Brooklyn, N. Y.—Peace Brothers have been awarded contract for building sewer in Onderdonk Ave., Ridgewood, from Troutman St. to Suydam St., and in Starr St., from Onderdonk Ave. to the borough line at \$4,626.31. Award was made to the Tenth Ave. Construction Co. for building sewer in Woodbine St., from Cypress Ave. to Seneca Ave., Ridgewood, at \$1,326.50.

Lestershire, N. Y.—Three bids have been opened for construction of Main St. sewer as follows: Frank Stifflek, \$2,841.90; George Pignatello, \$2,849.43; George Serafino, \$2,830.16. Contract was awarded to Serafino by virtue of being lowest bidder.

Watertown, N. Y.—Contract for laying of Mill St. 10-in. sanitary sewers from Stuart St. to North Side trunk sewer has been awarded to L. C. Murray. Estimated cost is \$1,155.27.

Cincinnati, O.—By Board of Public Service for constructing proposed sewers in Madisonville. Contract 1, Madisonville District, to Welling & Franz, Sub. Station L of Cincinnati, at \$63,223 to be of brick.

Dayton, O.—Bids have been opened in office of Service Director Sebold involving improvements that contemplate expenditure of approximately \$20,000. These consist of construction of storm sewers on Bowen and West Third Sts., sanitary sewer on Lowes St. between Evanston Ave. and point 192 ft. east and sidewalks on St. Nicholas Ave. between Gatch and Wyoming Sts. Britt Sts. and Pleasant St. Boyd & Cook submitted lowest bid for Bowen and West Third St. improvements: Chas. F. Smith, Adolph W. Smith and Chas. J. Welzel on Yowes St.; Clifton Hoolihan on St. Nicholas Ave.; G. R. Stattelmann on Britt St. and Pleasant St.

Mantua, O.—For constructing sanitary sewers in Districts 1 and 2 and sewage treatment works by Village Trustees to T. G. Chapman, of Lorain, at \$27,507.

Altoona, Pa.—Board has awarded to Saupp & Herr, two sewer contracts, one in Sixteenth Ave. and one in Chestnut Ave., first at \$2 per ft. and second at \$3.25. Sewer in Chestnut Ave. is but 20 ft. long.

Pittsburgh, Pa.—By City Controller for 36 and 54-in. brick outlet sewer on Second Ave. and Rutherglen St., to M. O. Herron Co., First and McKean Sts., Pittsburgh, at following bid: 54-in. brick sewer, 287 lin. ft., in tunnel, \$26.27; 70 lin. ft. brick sewer, Type A, in trench, \$26.70; 1,163 lin. ft., Type B, \$9.50; 397 lin. ft. 36-in. brick sewer, \$6; 10 lin. ft. 36-in. to 54-in. brick sewer, increased section, \$12.70; 10 lin. ft. 48 to 36-in. brick, reduced section, \$8; 40 lin. ft. of 20 and 15-in. T. C. pipe sewer, catch basin connection, \$3; 40 lin. ft. 18 and 15-in. reconnection, \$2.50; 20 lin. ft. 9-in. house lateral, \$1.50; 6 manholes, each

\$50; 2 catch basins, each \$55; 20M. ft. hemlock lumber, \$20; 10 cu. yds. additional excavation, \$2; 10 cu. yds. additional concrete in place, \$8; Y connections, \$5, \$4 and \$3; brick and concrete masonry outlet, lump sum, \$2,067; for supporting and maintaining tracks of the Monongahela Con. R. Co., and work incidental thereto, (lump sum), \$250; total, \$26,684. Totals of other bids: Evan Jones Sons Co., \$33,812; J. B. Sheets Co., \$34,584; Jas. H. McQuade, Jr., \$33,457.

Sioux Falls, S. D.—Contract for construction of various sewers have been awarded to Fanebust Bros.

Eburne, D. C.—By City Council to R. McLean Co. for construction of sewers to cost about \$110,000.

WATER SUPPLY

Clanton, Ala.—Question as to issuing \$35,000 in municipal bonds for waterworks and sewerage purposes is shortly to be voted on by people of Clanton.

Phoenix, Ariz.—Bids will shortly be called for standpipes on Central.

Red Bluff, Cal.—Election will be held for voting on purchase of old water plant for \$85,000, or planning entire new plant at cost of \$85,000.

Columbus, Ga.—Election for issuance of \$450,000 of bonds for purpose of construction and operating municipally owned waterworks system, has resulted in an overwhelming victory for bonds.

Des Moines, Ia.—Plans on water works election are being discussed.

Marion, Ky.—Election will be held for voting on installation of water works.

Hagerstown, Md.—At special meeting of Board of Directors of Washington County Water Co., it was unanimously decided to build at once additional reservoir with capacity of between 200,000, 000 and 300,000,000 gallons on the Edgemont water shed.

Lynn, Mass.—Water Department has asked permission to call for bids on alterations which will be made necessary by installation of new centrifugal pump which is to replace old fashioned triple expansion pump. Council has granted the permission.

Ann Arbor, Mich.—At special election here it was voted, 1,079 to 493, to bond for \$450,000 to buy waterworks plant.

Columbus, Mont.—Special election will be held Oct. 31 on question of bonding city for \$30,000, for purpose of installing municipal water system.

Roundup, Mont.—Special election for Nov. 10 has been called by city council for vote on bonds for \$60,000, for purpose of purchasing plant of Roundup Water Co.

Garfield, N. J.—Erection of water plant has been decided on.

West Orange, N. J.—Erection of municipal water plant is being considered.

Lestershire, N. Y.—Special election for purpose of voting on proposed \$15,000 bond issue for maintenance and extension of village waterworks will be held at the fire station on Nov. 8.

Penn Yan, N. Y.—The Penn Yan Municipal Board has asked Board of Trustees to submit to taxpayers proposition to give board permission to improve water works and electric light plant at total expense of about \$6,000.

Dayton, O.—Improvements to water works system are contemplated; estimated cost \$300,000.

Springfield, O.—Bids upon valves needed for extensions in water works system have been opened in office of City Clerk E. D. Seggerson. Bidders were the Dayton Supply Co., the Ludlow Valve Mfg. Co., J. E. Clow & Sons, the Darling Pump Mfg. Co., the M. D. Larkins Supply Co., the A. P. Smith Mfg. Co. and the Kennedy Valve Mfg. Co. Contract has not yet been awarded.

Youngstown, O.—Bids will be received at 2 p. m., November 17, by D. J. Jones, City Aud., for \$200,000 worth of waterworks extension bonds.

Baker, Ore.—City Council is said to have decided to employ engineer to estimate cost of laying 17,000 ft. of steel water pipe and making other improvements to water works.

Harrisburg, Pa.—Board of City Water Commissioners are discussing advisability of constructing larger water mains in Market and Front Sts. Ordinance will be introduced in Councils soon authorizing Board to do the work. Proposed main in Front St. will be 16-in. pipe. This will be laid in section from Market to North St. Line from Market to Paxton St. will be a 12-in. pipe. Market St. will get 16-in. pipe and this will extend to railroad.

Knoxville, Tenn.—Before city of Knoxville can issue \$200,000 bonds to improve Knoxville water plant question must be submitted to vote of people for ratification.

Clarendon, Tex.—Water works bonds have been approved to amount of \$16,000.

Galveston, Tex.—Bond election will be called for voting on issue of \$150,000 for an increased water and sewer service extension.

Georgetown, Tex.—At meeting of City Council it was unanimously agreed to order election on Nov. 15 for purpose of voting on proposition for issuance of \$13,500 bonds to sink artesian well to be added to city's water supply.

Killeen, Tex.—City of Killeen has voted on \$16,000 bond issue for purposes of constructing waterworks system, which carried by vote of about 3 to 1.

Rosenberg, Tex.—Property owners have voted issuance of bonds to amount of \$31,000, \$18,500 to be used for water works purposes and \$12,500 for street improvements.

Olympic, Wash.—Installation of water meters is being urged.

Point Grey, B. C.—Plans are being prepared by Water Supt. for 12-in. water mains in Blanchard St., from 14th to 10th Aves., at cost of about \$18,000.

CONTRACTS AWARDED.

Taft, Cal.—By Western Water Co. to Virginia Pipe Line Co., of Taft, for laying 8 miles of 9-in. water pipe into the Sunset District. The Lacey Mfg. Co., of Los Angeles, will supply pipe and fittings, and will also construct 10,000 bbl. storage tank; total cost, \$65,000.

Stamford, Conn.—Bids for contract of erecting pumping station on lower Pacific St. and installing equipment, besides laying 1,080 ft. of drain pipe, have been opened. Don C. Gleason of Ryder & Gleason was awarded contract, his bid being nearly \$150 lower than that of his nearest competitor. Harold A. Parsons. Contract price is \$3,950 for erection and equipment of building and \$2 per foot for 1,080 ft. of pipe, totaling \$6,110. Appropriation is \$6,115. Other bidders were: Frank Hook, \$6,575, and H. A. Parsons, \$6,160.

Newcastle, Ind.—Hutzel & Co., of this city, have received contract for waterworks system at Indiana Village for Epileptics.

Attleboro, Mass.—Final work in signing over contract for new engine at pumping station in South Attleboro will shortly be completed and work of installing will soon commence. The Snow pump of Buffalo has been decided on and will cost about \$12,000.

Valier, Mont.—For construction of water system to C. H. Green, Spokane, Wash., at \$34,382.

South Sioux City, Neb.—Contract for constructing water works is reported awarded by City Council to J. P. Green, of Albert Lea, Minn., at \$24,711.

Moorestown, N. J.—To E. C. Worrell Co., contract by Moorestown Township Committee to drill test artesian well which may be used when water system is taken over by municipal authorities after first of coming year. Worrell's bid was \$1,420.

Akron, O.—By Director Public Service, contract for construction of filtration plant at Kent dam, to Carmichael Construction Co., Akron, at \$257,252.

Barberton, O.—Bids have been opened at office of Service Director E. B. Frase for \$15,000 worth of water main extensions, planned by city for near future. There were two bidders for the work, Paul & Henry, of Barberton, and J. B. Lynn, of St. Clairville. Bid of Paul & Henry was lowest. Bids were made on unit plan, and City Engineer Alcorn was instructed to tabulate bids, and submit his report to members of Board of Control, composed of Mayor, Service Director and Safety Director. Contract includes supplying of considerable amount of 6-in., 8-in. and 4-in. pipe for various parts of work.

Dallas, Tex.—Board of Municipal Commissioners have let contracts for 825 water meters. The special committee to consider water meter bids recommended following purchase, report being adopted: Seven hundred ½-in. Lambert meters with ¾-in. coupling; 25 1-in. Lambert meters, 25 1-in. Keystone meters, 25 1-in. Nash meters, 25 1-in. Worthington meters, 25 1-in. Trident meters.

Seattle, Wash.—For construction of water mains on Sixth Ave. South to L. R. Ellis at \$15,428.10.

LIGHTING AND POWER

Chico, Cal.—The Chico Trustees are discussing proposition of establishing municipal lighting plant in Chico.

Albia, Ill.—City Council is considering plans for municipal light plant.

Bloomington, Ill.—Property owners in 600 block on North Main St. have presented petition to Council asking for cluster lights on both side of street in this block.

Sterling, Ill.—Boulevard lighting system is being planned.

Lafayette, Ind.—More than 300 West Side people have signed petition for boulevard lights along State St. from foot of State St. Hill to Martsellar St.

Blue Earth, Minn.—Ornamental street-lighting system will shortly be installed in business section. Five-lamp clusters will be used.

Lawrence, Mass.—It is planned to extend lighting system from Bridge to South Park.

Fertile, Minn.—City Council will call special election to vote on proposition to install municipal electric light plant.

Asbury Park, N. J.—Better lighting of streets is being discussed.

Defiance, O.—Village is contemplating installation of electric lights. Present plan is to use boiler and engine in tile yard to operate dynamo of sufficient capacity to supply village.

Lima, O.—City Council has adopted resolution authorizing election for voting on \$40,000 bond issue on Nov. 4 for purpose of installing an ornamental street lighting system and to construct municipal electric light plant.

Klamath Falls, Ore.—Initial steps have been taken by Klamath Falls City Council toward construction of municipal power plant on Link River that will furnish electric power for lights and all other purposes, not only for city's streets and buildings, but also for sale by city to consumers.

Altoona, Pa.—Plans for extension of mains of People's Natural Gas Co. for over half of city not yet supplied, have been approved.

White, S. D.—George Blaisdell, a local capitalist, has been granted franchise by City Council to install and operate electric light and power system.

Fort Worth, Tex.—Arrangement have been complete by Light Commissioner Allen, following conference with County Commissioners, for placing of 18 arc lights on Samuels Ave., from city limits to Niles City; also on new 12th St. bridge and its approaches. County will co-operate with city in paying for installation of lights, wiring, etc.

San Antonio, Tex.—Plans have been adopted for lighting of Commerce St.

Spokane, Wash.—Plans have been completed for installation of cluster lighting system on Riverside Drive, to cost about \$25,000.

St. Marys, Ont.—Electric Light Commissioners will in a few months purchase wire, transformers, graphic meter for customer taking about 400 h. p., one 250-h. p. motor and 150 h. p. in four motors. H. M. Miller is Superintendent.

CONTRACTS AWARDED.

Taunton, Mass.—Dr. M. C. Golden as manager of municipal lighting plant has granted contract for new boiler at power station to Heine Boiler Co. at \$5,450, less \$150 for tests, which makes net cost \$5,300. The Heine boiler is type heretofore used, and so replacing will be accomplished without changing over existing foundations. Other bids were Edgemere Boiler Co., \$5,508, and Babcock & Wilcox, \$5,540.

Holly, Mich.—Council has awarded franchise for lighting village for 10 years to the Independent Power Co. Terms of contract are as follows: The lighting is to cost \$200 per year; there are to be five arc lights, two on Saginaw St., one on Maple and Broad Sts., one on hotel corner and one on Railroad and Broad Sts. There are to be ten lamps of 100 watts and 55 lights of 250 watts, making a total of 70 lights.

Albany, Mo.—For construction of new municipal power plant, to Commercial Construction Co., of Kansas City, Mo., at \$12,000. W. E. Noonan is Supt.

Cumberland, R. I.—Town Council Committee on Street Lights, consisting of President Keach and Councilmen McCauley and Wardell, have signed new contract for street lighting with Blackstone Valley Gas & Electric Co. for term of five years.

Lincoln, R. I.—Town Council has accepted contract submitted by Blackstone Valley Gas and Electric Co. for the lighting of streets for term of 10 years.

Menomonie, Wis.—The Chippewa Valley Railway & Electric Light Co. has been awarded contract for street lights for next four years.

FIRE EQUIPMENT

Live Oak, Cal.—Purchase of chemical engine is being discussed.

Red Bank, Cal.—Question of purchasing new fire apparatus is being considered.

San Francisco, Cal.—Plans have been approved for fire engine house to be erected at Drumm and Commercial Sts. Cost about \$50,000.

Bridgeport, Conn.—Plans are being considered for purchasing more fire apparatus.

St. Augustine, Fla.—Acting favorably on recommendations of Fire and Police Committee, City Council has empowered committee to proceed at once and call for bids for first class automobile apparatus carrying pump as well as chemical engine and hose.

Rome, Ga.—Fire Committee has been authorized to advertise for prices on auto pumping engine.

Dixon, Ill.—Several hundred feet of hose will be purchased shortly.

St. Joseph, Mo.—Sum of \$2,000 will be given fire department for hose.

Livingston, Mont.—Purchase of modern fire truck is under consideration.

Camden, N. J.—Purchase of auto fire truck is being discussed.

Collingswood, N. J.—Funds are being raised for purchase of combination motor chemical and hose truck.

Jersey City, N. J.—Plan is being considered for purchase of motor-driven truck and for equipping present trucks with tractors.

Alliance, O.—Bids will be asked shortly for motor triple combination wagon.

Toledo, O.—Bids will be received at office of City Auditor, Toledo, O., until 7.30 p. m., Nov. 19, 1913, for purchase of \$200,000 city of Toledo 4½ per cent. fire department bonds. J. J. Lynch is City Auditor.

Chester, Pa.—Purchase of motor driven combination fire engine and chemical wagon for Good Will Company of First Ward has been authorized.

Hanover, Pa.—Purchase of motor truck for Hanover Fire Company No. 1 is being considered.

Reading, Pa.—Lyons Fire Co. has voted to begin construction of new engine house and town hall at once.

West Chester, Pa.—Purchase of motor combination chemical and hose wagon has been recommended.

Providence, R. I.—Board of Contract and Supply has voted the Fire Commission authority to purchase two motor combination hose and chemical trucks at total cost of \$9,999.

Austin, Tex.—Election will be called shortly for voting on \$25,000 bond issue for fire alarm system.

Dallas, Tex.—Because of rapid development of Oak Cliff, Board of Municipal Comrs. has decided upon three instead of two fire stations as needed for that section of city.

Galveston, Tex.—Bond election will be called for voting on issue of \$75,000 for purchase of fire boat.

CONTRACTS AWARDED.

Boston, Mass.—Authority has been granted Fire Commr. Cole to purchase from American-La France Fire Engine Co. of Elmira, N. Y., without advertising, a triple combination pumping hose and chemical engine for \$9,000, machine to be taken on trial for 30 days and city to accept it if it meets with requirements of department.

Harrisburg, Pa.—Contract will be awarded to Gamewell Fire Alarm Telegraph Co. of New York for fire alarm repeater at sum of \$2,250, with reduction of \$500 for old equipment. The Star Electric Co. of Binghamton bid was \$1,450 with a \$455 reduction.

BIDS RECEIVED.

Carson City, Nev.—Following are bids received for motor fire truck: The Reo Nevada Co., chassis, \$1,712.50; fitted, \$1,897.50; this for a Federal truck. Martin Carriage Co., Type A fire truck, \$5,000; Type B fire truck, \$4,000. Jas. Boyd & Co., 1st bid, \$5,300; 2d bid, \$5,800; 3d bid, \$5,800; 4th bid, \$6,300; 5th bid, \$6,050; 6th bid, \$6,550; this company allowing \$500 as purchase price of the present chemical cart. Segrave Chemical Co., 1st bid, \$6,500; 2d bid, \$6,000; allowing \$600 for the chemical cart of department. Durham Co., chassis, \$1,794.50; fitted, \$1,894.50; this for a Reo truck.

Roselle, N. J.—Borough Council has opened bids to furnish borough 1,000 ft. of fire hose, several of firms giving figures on different kinds of hose. Bidders and their figures were as follows: David E. Benedict, representing the Fabric Fire Hose Co., 70 cts., \$1.05 and \$1.20 per ft. for various grades; Gutta Percha Rubber Co., 79 cts., 95 cts., \$1.10 and \$1.25; Revere Rubber Co., 80 cts., 90 cts., \$1 and \$1.35; E. F. Goodrich Co., two kinds, 80 cts., one at 95 cts.; New Jersey Car Spring & Rubber Co., 87 cts. and 95 cts.; Empire Rubber Manufacturing Co., 90 cts.; Republic Rubber Co., 90 cts. and \$1.20; Eureka Fire Hose Manufacturing Co., \$1.; Woodhouse Manufacturing Co., 79 cts. and 99 cts.; U. & G. Rubber Manufacturing Co., 74 cts. and 90 cts.; C. C. C. Fire Hose & Rubber Co., 74 cts., 90 cts. and \$1.10; New York Belting & Packing Co., \$1.05 for two kinds; Manhattan Rubber Manufacturing Co., 75 cts., 80 cts. and 95 cts.; E. R. Northrup Co., \$1.05. No definite action was taken toward awarding contract.

BRIDGES

Waterloo, Ia.—Ordinance has been passed authorizing issuance of bonds in sum of \$23,500 for Falls Ave. bridge.

Falun, Kan.—Township is about to put in two new concrete bridges.

Great Falls, Mont.—Commissioners of Cascade County are considering erection of bridge over Marais River at cost of \$17,000.

Lincoln, Neb.—County Board of Nucholls County has asked State Engineer Price for state bridge over Republican River, one mile west of Superior. Board reported that old structure was unsafe and it urged that concrete or concrete and steel be installed. Length of structure would be 400 ft. and estimated cost \$25,000.

Camden, N. J.—Board of Chosen Freeholders of Camden County has sold bridge bond issue of \$75,000 for construction of lift bridge over Newton Creek, on Broadway, and plans are being made.

Albany, N. Y.—Superintendent of Public Works Peck has received bids for foot bridge over the Erie Canal in Cornelia St., Utica, as follows: Peters & Kiehm, Utica, \$2,357; Lupfer & Remick, Buffalo, \$1,196. For building highway bridge over the Black River Canal in Main St., Boonville, the lowest bidder was Lupfer & Remick, \$14,265; Peters & Kiehm bid \$16,901. For bridge over Black River Canal in Lyons Falls, Lewis County, Lupfer & Remick was likewise the lowest bidder, \$9,169. For construction of reinforced concrete highway bridge over the Black and Moose rivers in Lyons Falls, Ward & Tully, Inc., of Brown Station, was lowest bidder, \$50,000. Awards of contracts will be announced later.

Eugene, Ore.—Plans are being made for new bridge across slough on road between Harrisburg and Junction City.

Carlisle, Pa.—County Commissioners have been granted permission by State Water Supply Commission to build two-span bridge over Conodoguinet Creek between Frankfort and West Pennsboro Townships. Bridge is to be built of reinforced concrete and will be approximately 140 ft. in length.

Chattanooga, Tenn.—Committee appointed by County Court, to consider need of bridge over Tennessee River, composed of Justices Dan Donelson, Abel and Ragon of the court and T. R. Preston and Frank Spurlock has instructed engineers to draw up tentative plans. County has authority to issue \$500,000 of bridge bonds.

CONTRACTS AWARDED.

San Jose, Cal.—To R. O. Sommers, contract at \$9,485 for construction of concrete bridge over Los Gatos Creek on San Fernando St. Estimate was \$10,000.

Shreveport, La.—By Police Jury of Caddo Parish, contract for erection of steel bridge over Caddo Lake, to Midland Bridge Co., Kansas City, Mo., at \$44,000. Waddell & Harrington, 1012 Baltimore Ave., Kansas City, are engineers.

Missoula, Mont.—By County Commissioners of Missoula and Powell Counties, contract for erection of steel bridge over Blackfoot River, on county line near Sunset, to O. E. Peppard, Missoula, at \$9,590.

Albany, N. Y.—Raleigh & Co., of Syracuse, are lowest bidders on contract to construct bridge over Black River Canal at Lyons Falls. Bid of this company was \$8,991. There were three other bidders.

Rome, N. Y.—For construction of Rome-Vienna bridge over Fish Creek to Groton Bridge Co.

Pittsburgh, Pa.—Commissioners of Washington and Fayette counties have awarded contracts for superstructure of Brownsville bridge over Monongahela River. Successful bidder was Ft. Pitt Bridge Works, of Pittsburgh, whose bid was \$156,903.

St. Petersburg, Pa.—By Commissioners of Pinellas County, contract for erection of bridge over Booker Creek, at Ninth St., to Edwards Construction Co., Tampa, Fla., at \$18,750. Bridge will be of reinforced concrete.

Washington, Pa.—By County Commissioners of Washington and Fayette Counties contract for erection of superstructure of steel viaduct and bridge over Monongahela River between South Brownsville and West Brownsville, to Fort Pitt Bridge Co., Pittsburgh, Pa., at \$156,903. Completed bridge will cost two counties about \$250,000.

San Marcos, Tex.—Contract has been let for low water bridge over San Marcos River on Martindale Rd. to George L. Kennedy of San Marcos for sum of \$3,000. Bridge is to be 100 ft. long with three spans and solid piers of reinforced concrete and entire bridge will be constructed of reinforced concrete, to be completed in five weeks.

Seattle, Wash.—For erection of East Madison St. bridge to M. C. Hineman at \$4,978.40.

MISCELLANEOUS

Birmingham, Ala.—Bond issue of \$200,000 for municipal auditorium has been carried.

Huntsville, Ala.—City Commissioners have under advisement plans for establishment of city market house.

Chico, Cal.—Trustees are discussing erection of incinerator for disposition of garbage.

Oakland, Cal.—Bids received for completion of municipal auditorium will probably be rejected.

San Mateo, Cal.—By vote of eight to one, city of San Mateo has passed \$89,000 bond issue. Of this amount \$40,000 is subscribed for erection of new City Hall. An appropriation of \$10,000 was also made for bridges. Other appropriations were mentioned, which include work on San Mateo Creek.

Colorado Springs, Colo.—Resolution has been adopted authorizing city clerk to advertise for bids for disposing of city's garbage. Bids will cover handling of garbage for one, two and three years respectively and with and without sterilization.

Pensacola, Fla.—Site has been purchased for erection of new crematory plant.

Alton, Ill.—City Engr. J. E. Schwaab has made application to Major C. Keller, United States Engineer, at Rock Island, to establish harbor line at Alton.

Pekin, Ill.—Court house bonds in sum of \$250,000 have been voted for.

Indianapolis, Ind.—At request of a number of rental agents and property owners, Mayor Shank has had specifications prepared for contract for removal of rubbish not included in contract held by the Indianapolis Hauling Co. Mayor will ask Board of Public Works to advertise for bids, and if proposition can be financed, to let contract.

Indianapolis, Ind.—Members of Board of Public Works and Board of Park Comrs. have decided to ask City Controller Wallace to recommend to City Council bond issue of \$50,000, proceeds to be used in defraying cost of retaining wall along south bank of Fall Creek from College Ave. to 30th St.

Kendallville, Ind.—A \$23,000 bond issue to pay for new city hall at Garrett has been sold to E. M. Campbell Sons & Co., of Indianapolis.

Richmond, Ind.—Purchase of motor cycle is being considered.

Flint, Mich.—City Garbage Commission has received report of Henry Wagner, sanitary engineer, who recommends reduction plant of about 30 tons daily capacity.

Duluth, Minn.—City Council will receive sealed proposals at Council Chamber in City Hall at 3 p. m., Nov. 3, for purchase of gold bearing coupon bonds to amount of \$50,000, in denominations of \$1,000, \$500, \$100 and \$50. Said bonds are issued for purpose of acquiring and improving lands for public parks and parkways. C. S. Palmer is City Clk.

South St. Joseph, Mo.—Board of Public Works is contemplating erection of fence of pipe, about 4 ft. high, with two rails, and city engineer has been asked to draw

plans and submit specifications and estimate of cost of such protection.

Jersey City, N. J.—Plans are being drawn for erection of new Police Headquarters building.

Jersey City, N. J.—Plans for public improvements to cost at least \$2,500,000 have been discussed by City Commissioners at conference of Board.

Athens, N. Y.—Taxpayers will vote on Nov. 4 on purchase of stone crusher and screen.

Syracuse, N. Y.—Tentative plans for buildings, which it is planned to erect in public parks of city, have been considered in detail by Park Commission. These structures include bath house and bandstand at Onondaga Park, and general buildings for playground purposes at Burnet, Schiller, Lincoln and Kirk Parks.

Utica, N. Y.—Ordinance has been passed by Common Council authorizing bond issue of \$20,000 for subway construction.

Akron, O.—Safety Director Dunwoodie of Canton has rejected bids received for proposed new automobile patrol. The White Co., of Cleveland, has offered to install patrol for \$3,900, and Peerless Co. for \$4,500. Bids will be readvertised.

Dayton, O.—Sum of \$8,700 will be spent in repairing and reconstructing Miami River levees above city.

Mount Vernon, O.—Ordinance declaring it necessary to repair banks of Kookosing River in western part of the city, and to issue bonds in sum of \$1,500 to take care of the work has been introduced.

Harrisburg, Pa.—Approval of several items of municipal loan of \$350,000 has been made by Executive Committee of Municipal League. Those items include \$100,000 for sewers, \$100,000 for playgrounds and highways, \$50,000 for paving, \$25,000 for a municipal paving plant, \$25,000 for an isle of safety and public comfort station, \$25,000 for fire apparatus and \$25,000 for bridges. Election will be held Nov. 4 for voting on same.

Philadelphia, Pa.—Bids for construction of sub-structure work on one of new Southwark piers, which are to be built at Christian St. wharf, have been opened at office of Director Norris, of Department of Wharves, Docks and Ferries. Following bids were received on Item 1, a cross-wall type of concrete construction supported on piles and platform; Item 2, filled platform type, concrete side and end retaining walls, and Item 3, combination of Items 1 and 2 and solid filled pier. Bidders: The Snare & Triest Co., \$276,000, \$296,600; \$274,500, 12 months; Armstrong & Latta Co., \$324,000, \$317,500, \$330,000 18 months; E. F. Fonder, \$327,000, \$340,500, \$304,500, 18 months; American Paving & Const. Co., \$539,000 \$324,000, \$309,000, 24 months. Alternate bid, Raymond Concrete Pile Co., concrete construction, including concrete piles, \$319,960, 10 months.

Steelton, Pa.—Plans for Municipal League's campaign in promotion of \$55,000 municipal loan, which will be voted upon at November election, have been taken up by League committee. The campaign will start Oct. 27.

Clarksville, Tenn.—Bids for \$20,000 worth of Montgomery County bonds have been opened. Cutter, May & Co., of Chicago, being the successful bidder.

Austin, Tex.—Property owners will shortly be called upon to vote on issuance of bonds to amount of \$125,000, \$50,000 of which will be used for market house, \$50,000 for abattoir and \$25,000 for fire alarm system. Election will probably be called some time in November.

Galveston, Tex.—Bond election will be called for voting on issue of \$300,000 for new city hall.

Marshall, Tex.—At meeting of City Comm. election was ordered to vote on bond issue of \$7,000, to be used for purpose of making improvements, erecting buildings and places of sports and amusements, and in maintaining and operating new Caven Park.

Paint Rock, Tex.—At meeting of Commissioners' Court of Concho Co., election was ordered, to be held Nov. 29 for purpose of voting on \$15,000 bond issue for purpose of building new jail.

San Antonio, Tex.—City's improvement bonds aggregating \$3,450,000 have been approved by Attorney General's Department. The bonds approved are for following improvements: Street paving, \$150,000; sewers, \$800,000; storm sewers, \$300,000; city hospital, \$125,000; central fire and police station, \$175,000; garbage incinerators, \$50,000; street widening and